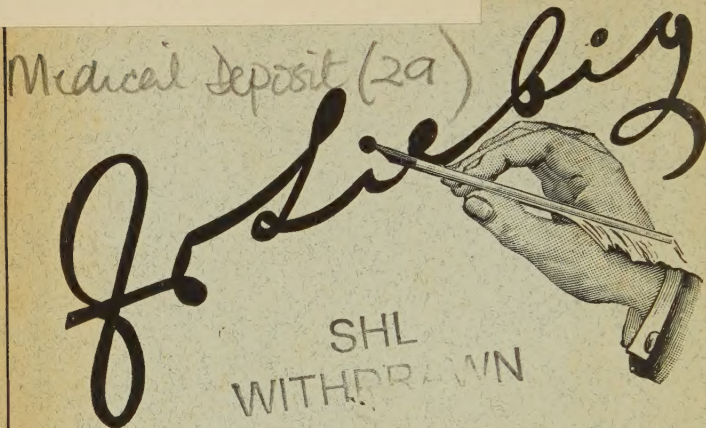




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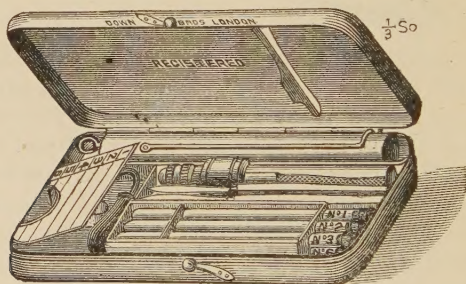
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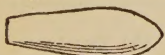
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Synopsis.

ABSTRACTS AND OTHER SHORT ARTICLES FROM THE MEDICAL JOURNALS, SHOWING THE MOST IMPORTANT INDICATIONS OF TREATMENT, PUBLISHED BY DIFFERENT WRITERS DURING THE HALF YEAR.

ARRANGED ALPHABETICALLY.

GENERAL MEDICINE AND THERAPEUTICS.

ALCOHOL, THE EFFECTS OF THE HABITUAL USE OF.

According to the *Dietetic and Hygienic Gazette* for January, Dr. Crothers, of Hartford, Connecticut, in a paper read at the New York County Medical Association, October 17, 1898, discussed this subject in a very conservative and intelligent way. He stated among other things that the ingestion of alcohol accelerated the heart's action ten or fifteen beats a minute at first, but that after a while the circulation became slower, so that the pulse rate dropped at least as much as fifteen or twenty beats below the normal. Vision, he said, was always diminished and rendered unreliable by the ingestion of alcohol. The acuteness of the sense of hearing was likewise impaired. The increase in the pitch of the voice of persons under the influence of alcohol was due to impaired hearing. Hallucinations of hearing were frequent under such circumstances. The senses of taste and smell were also influenced by alcohol. The sense of touch was always exaggerated or diminished, and careful measurements of muscular force showed that the muscular system did not escape the deleterious action of this poison. If the temperate man suffered from the use of one or two ounces of alcohol in this appreciable way, then the continual or frequent drinking of alcohol must exert a distinctly deleterious influence. All experimenters agreed that when alcohol was taken in excess the result was a profound tissue and cell degeneration, and general starvation of the tissues. Alcohol, by its anæsthetic action, soothed the irritable nerve centres, and the effects were so pleasing that the individual desired to repeat the experience. Often this desire to seek relief by its anæsthetic effect was really an indication of a diseased condition, which perhaps was disclosed only by a post-mortem examination. A century ago the anæsthetic

action of alcohol created dementia and idiocy, but to-day it was more apt to cause delirium and paralysis. Heredity seemed to be one of the most prominent causes of inebriety. (New York Medical Journal, February 11, 1899.)

ARSENIC AND THE BONE-MARROW AND BLOOD.

Arsenic has a marked effect in increasing the number of red blood corpuscles in some cases of pernicious anæmia, of leukæmia, and of lymphadenoma, although not infrequently in these diseases the blood condition is not perceptibly improved by it. In malarial anæmia, also, its hæmatinic value is undoubted, although its mode of action is obscure, as it is still an open question whether it stimulates the formation of red corpuscles, or lessens their rate of disintegration by killing the specific organisms. In chlorotic anæmia, arsenic given alone does not improve the blood condition, but its combination with iron is supposed to greatly hasten the action of the latter. In health it is incapable of increasing the number of corpuscles or the amount of hæmoglobin. Stockman and Greig (*Journ. Physiol.*, Cambridge and London, vol. xxxiii. p. 376) have published the results of some experiments on dogs and rabbits which seem to partly at least explain the hæmatinic action of arsenious acid. Young and adult animals received small doses of arsenic daily for periods of 43 to 145 days. During this time the corpuscles and hæmoglobin were frequently estimated and compared with those of control animals. On killing the animals, the only changes observed were in the bone-marrow of those which had received arsenic. The corpuscles and hæmoglobin remained exactly as in the control animals; there was neither an increase nor a decrease observed. In the marrow the difference between the normal and arsenic rabbits was very striking. The red marrow in the latter was greatly increased in amount and of a deeper colour; there was a great increase in the number of capillary blood vessels in it; the fat cells had to a large extent disappeared or were atrophied, and there was a much greater number of marrow cells to take their place. In short, in the marrow there was greatly increased vascularity, great diminution of fat, and a great increase of marrow cells—all this indicating local stimulation and increased function. In spite of this stimulation of the bone-marrow, there was no increase in the number of red or white corpuscles or of hæmoglobin. This, however, is capable of being interpreted in two widely differing ways—(1) The arsenic may stimulate the formation of red corpuscles, but there may occur simultaneously a corresponding increase in their breaking down so as to keep the number present in the blood at a constant quantity. There was found no evidence

of increased breaking down, so far as any increase of iron pigment in the spleen or liver went to show it. (2) In health there may be no increased formation of red corpuscles under the action of arsenic. As iron, good food, and tonics fail to raise the number beyond the physiological maximum in health, and yet act as hæmatinics in disease, it is not astonishing that arsenic should behave similarly. In pernicious anæmia, leukæmia, &c., the experiments seem to show that the hæmatinic effect is due to stimulation of blood formation in the bone-marrow. If this be so, although arsenic may increase the number of red corpuscles and apparently improve the patient's condition, it does not strike deeper and affect the real cause of the disease, and it must therefore be regarded as purely symptomatic treatment in these so-called blood diseases. (From Dr. Stockman's periscope in *Edinburgh Medical Journal*, February, 1899.)

CHICKEN-POX AND SMALL-POX.

Chicken-pox is not likely to be confounded with any other disease, except when it occurs in an adult and the eruption is profuse, then it may be very readily mistaken for small-pox. The diagnostic points in this disease are, the few hours prodromal symptoms, with slight constitutional disturbance and less intense headache and backache, papules last but a few hours and do not have the shotty feeling definitely marked, the vesicles form early and rupture easily, and if they appear to be umbilicated, can be distinguished by small black centres. The vesicles rupture early and dark scabs form, while the vesicles of small-pox become postular, and when they rupture, have a thick yellowish crust, and there is a much longer interval between papules and scabs. (From Dr. F. W. Wright's paper in *Pediatrics*, April 1, 1899.)

CHICKEN-POX, GANGRENOUS.

Dr. Stephen Mackenzie exhibited a case of *Varicella gangrenosa* before the British Dermatological Society. The patient, a girl 4 years of age, had, together with a brother and sister, recently suffered from an attack of chicken-pox, but she alone presented the characteristic symptoms of this complication or sequel of the disease. During the second week circular, slightly raised reddish spots appeared in various parts of the body, many of which had a black (necrotic) centre which continued to increase in size until admission. Though the child was said to have been unconscious for four days during the illness, she did not appear to have been very ill in the attack, and when admitted into the London Hospital on December 16, 1898, her general appearance, colour, and nutrition were very good. On the

forehead, scalp, trunk, abdomen, buttock, and outside of left thigh were a number of lesions, amongst which the following could be discriminated:—(1) Small spots, rose-coloured and slightly raised at the border; (2) larger lesions covered by a crust or scab, with black or brownish black centres surrounded by an areola of inflammation or suppuration; in some the scab was semi-detached and surrounded by pustulation; (3) circular, punched-out ulcers, of varying size, the largest of which was about the size of a shilling, with a greenish-yellow slough at the base. In the majority of places the edge of the ulcers was not raised, but the skin was red. In a few the edge of the ulcer was raised, red and indurated, so as to merit the descriptive term of "crateriform." The total number of lesions was from twenty-five to thirty, of which fifteen were sloughing ulcers. There was no constitutional disturbance. The ulcers were treated by boric acid fomentations and washed twice a day with sol. hydrarg. perchlor. 1²200. They quickly healed, leaving circular depressed red scars, and in all, except one on the back of the head, were cicatrised when the patient was exhibited on January 11. (*British Journal of Dermatology*, February, 1899.)

CHILBLAINS.—Treatment by the Electric Bath.

During last winter and also during the present winter I have been trying the effect of electricity in a case of chilblains of a severe type with excellent results. The method of application is very simple. An induction coil is used and the wires are attached to two metallic plates, which are placed at the two ends of an ordinary earthenware foot-bath filled with warm water. The patient is instructed to use this bath at bed time for ten or fifteen minutes whenever the slightest threatening of chilblains is noticed. The current is used as strong as it can be borne without discomfort, the effect being to make the feet warm with a glow which lasts until the patient goes to sleep. Any swelling or congestion of the toes quickly disappears and all danger of serious trouble from a broken chilblain is warded off. Besides its use for the prevention of actual chilblains, the treatment may be used in cases where patients complain of cold feet. The electric stimulation seems to improve the circulation in the extremities to an extent far superior to anything which can be obtained from an ordinary warm foot-bath. A short course of electric foot-baths for eight or ten consecutive nights not only dispels chilblains which have already formed, but seems to produce an improved state of the circulation which renders the patient more or less chilblain-proof for some time after the baths have been stopped. (From Dr. H. Lewis Jones' note in *The Lancet*, January 14, 1899.)

CHLORODYNE POISONING.

C. M., aged 25, was admitted completely comatose. The pupils were fixed and slightly dilated. The body was well nourished, and the skin was warm, dry, and pale. The lips were slightly cyanosed. No odour was detected in the breath, and there was no corrosion of the mouth. Pulse, 90; respiration, 18 per minute; and temperature, 99° F. There was no rigidity and no paralysis of the limbs. Examination of the heart and lungs revealed nothing abnormal. The urine was acid, 1,018, and was free from albumin and sugar. Her previous history and family history were good. An hour after admission she became cyanosed, and respiration became shallow and laboured. Ether and strychnine were given hypodermically—without any benefit, for respiration soon ceased. As the heart continued to beat, artificial respiration was resorted to and continued with slight intermissions for nearly three hours before natural respiration came on. By this time the pulse rate had reached 112 per minute. The pupils had become more widely dilated, and divergent strabismus was now noticed. The respiration remained shallow, and the pulse began to flutter. She died of heart failure next morning at 5 a.m., the temperature at death being 106° F. After death an empty bottle labelled chlorodyne (not Colles Browne's) was found in her room, and then a chlorodyne habit was discovered. The diagnosis was not easy, and it is worthy of notice that morphine remained in the stomach for at least twenty-four hours after its ingestion. It is to be regretted that the stomach was not washed out; but it was thought that, were the condition due to a narcotic poison, it was too late after the lapse of so many hours for emptying the stomach to be of any benefit. The treatment consisted in faradism, hypodermics of ether and strychnine, and rectal injections of brandy and strong coffee. The difficulties of diagnosis lay in the dry skin, dilatation of pupils, and, at first, almost normal circulation and respiration. As many preparations of chlorodyne contain atropine, it seems probable that the latter drug was present in sufficient quantity to mask some of the ordinary signs of morphinism, and yet not sufficient to bring its own action into full evidence. (From Dr. O'Gorman Hughes' note in the *Australasian Medical Gazette*, January 20, 1899.)

CHOREA.—Treatment of.

(From Dr. J. Purves Stewart's paper.) In the treatment of chorea, the first and all-important thing to secure for every patient is absolute rest, physical and mental. Rest in bed should be insisted on, even in mild cases, for several weeks at least, and when the patient is allowed up, it should only be for a short time each day, gradually lengthening the time permitted

to be spent out of bed. In severe cases, to prevent the patient from falling out of bed or hurting himself, it may be necessary to lay him on a mattress on the floor in the corner of the room, well padded with cushions or pillows, to prevent him from knocking himself against the walls. It will be found advantageous to keep a choreic patient in bed until his involuntary movements, on holding the hands horizontally in front of him, are very faint. The diet should be nutritious and easily absorbed. The more food the patient can take, the better. In severe cases, where there is difficulty in deglutition, or where, from mental dulness, the patient does not take enough nourishment, nasal feeding must be resorted to. Dr. Hughlings Jackson treats his cases of chorea by the administration of alcohol—a teaspoonful of brandy every four hours in severe cases—and with excellent results. As to drugs, arsenic is the classical remedy. It is most safely given in small doses. Large doses of arsenic, 15 to 20 minims of liquor arsenicalis, are recommended by Dr. Murray of Newcastle; but, as Dr. Murray admits, this method of administration, if it be persisted in too long, is not devoid of risk. Arsenic in large doses, administered for a lengthened period, not only induces a brownish pigmentation of the skin, but has sometimes produced very intractable peripheral neuritis. Antipyrin is useful in some cases, but care must be taken not to give doses large enough to produce cardiac failure. The patient must, of course, be kept absolutely at rest during the treatment of antipyrin. In cases of very violent chorea, chloral may be exhibited until the patient is rendered drowsy, but it must be administered with caution, bearing in mind that in such cases the chloral sleep may sometimes be followed by noisy maniacal excitement. (*Edinburgh Medical Journal*, March, 1899.)

CHRONIC SULPHONAL POISONING.

The patient, an alcoholic man, aged 59 years, had taken 30 grs. of sulphonal nightly for some weeks—in all, about 1,200 grs. For some days before he was seen he had suffered from staggering, slurring speech, and apathy; these were attributed to his habits. When seen he was very somnolent, but could be roused, there was great motor feebleness, constipation, and anuria. Some ounces of port wine coloured urine containing hæmatoporphyrin and urobilin were drawn off from the bladder. Swallowing subsequently became impossible, and he died of heart failure in a week from the onset of the symptoms. On post-mortem examination there was found nephritis, chronic gastric catarrh, and œdema of the brain. Microscopically, the liver showed cloudy swelling, the secreting epithelium of the

kidney was degenerated and desquamating, the cortical cells of the supra-renal capsules were much altered. The blood showed poikilocytosis, numerous "*Schatten*," a few normoblasts, and an excess of lymphocytes. Discussing the question of sulphonal poisoning, Dr. Gulland pointed out that in acute cases the symptoms were different from those where the course was chronic. There was sleepiness, muscular weakness, and inco-ordination, but no hæmatoporphyrinuria; death resulted from failure of the heart. He thought that in chronic sulphonal poisoning we had to do, not with a blood poison, such as chlorate of potash, but rather with a substance which set up nephritis and uræmia. Hæmatoporphyrinuria was also seen in lead poisoning and in cases of intestinal hemorrhage; its pathology was uncertain. (From Dr. Gulland's note in the Medical Press and Circular, December 14, 1898.)

CONSUMPTION.—Prevention of.

The following rules are suggested by the Board of Health of Brighton:—(1) Expectoration indoors should be received into small paper bags and afterwards burned. (2) Expectoration out-of-doors should be received into a suitable bottle, to be afterwards washed out with boiling water; or into a small paper handkerchief, which is afterwards to be burned. (3) If ordinary handkerchiefs are ever used for expectoration, they should be put into boiling water before they have time to become dry, or into some disinfectant solution to be ordered by the doctor. (4) Wet cleansing of rooms, particularly of bedrooms occupied by sick persons, should be substituted for "dusting." (5) Sunlight and fresh air are the greatest enemies of infection. Every consumptive should sleep with his bedroom window wide open top and bottom, and during the day should occupy a well-ventilated room. Re-breathed air is the main condition favouring consumption. If the patient is warmly clad he need not fear keeping out in any weather. N.B.: The patient himself is the greatest gainer by the above precautions, as his recovery is retarded and frequently prevented by renewed infection derived from his own expectoration. (6) Persons in good health have no reason to fear the infection of consumption. Over-fatigue, intemperance, bad air, and dusty occupations favour the spread of the disease. (Medical Record, May 6, 1899.)

DIABETES treated with Thyroid Feeding.

Dr. Murrell relates a case. The following is taken from his remarks:—The influence of the thyroid treatment on the amount of sugar passed was very marked. It had already been stated that the patient's daily average was 5,848 grains.

During the next fifteen days the sugar was estimated on seven occasions, and the average was 3,057 grains a day. During the next eleven days seven more estimations were made, and the average of these was 1,346 grains. The amount passed on the last of these days was 1,180 grains, showing a fall on the thyroid treatment without restricted diet of 4,668 grains for the twenty-four hours. The thyroid treatment was then suspended, and the patient was dieted. Nearly all starch and sugar were knocked off, and the patient was fed solely on milk, beef-tea, fish, and a very little toast. An interval of two days was allowed to elapse, and then the estimations were resumed. Seven observations were made in eight days, and the average of these gave 1,898 grains of sugar a day. The last of these observations gave 3,440 grains in the twenty-four hours, so that on a restricted diet the patient passed 2,260 grains more than on an unrestricted diet plus thyroid feeding. The influence of the treatment on the quantity of the urine passed was also well marked. The patient's normal before treatment was 112 oz. in the twenty-four hours. In the first set of seven observations under the thyroid treatment with unrestricted diet the average was 101 oz., in the second set of observations under the same conditions it was 85 oz. In the seven observations on limited diet without thyroid the average rose to 129 oz. Thyroid is usually said to be a diuretic, but in this case it distinctly diminished the amount of urine secreted. The influence on the body weight was equally well marked, for, on unrestricted diet and thyroid, it fell from 6 st. 9 lb., first to 5 st. 12 lb., and then to 5 st. 4 lb. The lowest weight was 4 st. 13 lb., but a week later on the unrestricted diet and without the thyroid, it rose to 5 st. 3 lb. The general condition of the thyroid treatment underwent a marked change for the better. The patient notably improved in strength, the thirst was less, and the mouth was not so dry. (Medical Press and Circular, December 14, 1898.)

DIPHTHERIA, ANTITOXIN IN LARYNGEAL.

To give a brief summary of the statistics: Whereas in the pre-antitoxin days of 100 tracheotomies you could not expect to save more than 29, now you can expect to save no fewer than 53; of laryngeal cases not operated upon, in those days not more than 48, now not fewer than 75; of all cases, then not more than 34, now not fewer than 49. Further, we have a good chance of saving nowadays a much larger percentage of cases than the numbers I have just given. It is quite true that in former times without the use of antitoxin some very good results were obtained in tracheotomy cases. Sanné quotes a series of 87 cases from Geneva with 38 recoveries, or 43 per cent.; and at the

North Western Hospital of the Asylums Board for 1893 there were 78 cases with 34 recoveries, or 43·5 per cent. Welch quotes 47 cases reported by Sonnenberg, with a recovery-rate of 62 per cent.; Stintzing as reporting a recovery-rate of 51 per cent.; and Wittbauer one of 75 per cent. The number of cases, however, in these last two instances is not given in Welch's paper; and even these authors state that antitoxin produced an improvement upon their previous success. But these rates were all uncommon and do not in any way vitiate the conclusions drawn from the figures I have given. I think I am fully justified in claiming for antitoxin the great reduction in mortality amongst cases of laryngeal diphtheria that these figures reveal. I know of no other agent that can have brought about this result; if there be such it is for the adverse critic to point it out. (From Dr. Goodall's paper in the *British Medical Journal*, January 28, 1899.)

DIPHTHERIA AND SYPHILIS IN THE THROAT.

Somers (*Phila. Med. Jour.*, January 28, 1899) says that in syphilis of the pharynx simulating diphtheria the temperature is not as high, the patches on the pharynx and tonsil are not as elevated, the adjacent tissues are not so violently inflamed, and there is usually some concomitant symptom such as the dermal eruption. In a number of cases of diphtheria there is a somewhat symmetric arrangement of the membrane; but this is more marked in syphilis, and the "Dutch-garden" symmetry of syphilitic ulcers is rarely simulated. The crucial test is the presence of the diphtheria bacillus, but the history of the case, and the amount of acute constitutional symptoms, together with the course of the disease, must be taken into account. (*Medical News*, March 25, 1899.)

DIPHTHERIA, HEMORRHAGIC, WITH MARKED MEMBRANOUS DEVELOPMENT.

(By H. Batty Shaw, *Brit. Med. Jour.*, January 21, 1899). Patient, a well-nourished girl, aged 9 years, was admitted to the University College Hospital, November 16, 1897, suffering from difficulty in breathing. Laryngotomy was performed, and she died eight or nine hours after being relieved. The case is interesting from the likeness it bore in the earlier stages to ordinary severe quinsy and from the peculiar appearance of the mouth, it being impossible to define the faucial aperture, the space being occupied by a black, sloughy mass, which rested close on the tongue, so that neither tongue, tonsils, nor pharynx could be seen. The necropsy showed the appearance in the mouth to be due to a very thick diphtherial membrane closely

adherent to the soft palate, but merely overlaying the hard palate without being attached to it. The soft palate was remarkably thickened owing both to the oedema of the tissues and to the existence of diphtherial membrane, being two-thirds of an inch thick. The pharyngeal wall was greatly thickened, in part by membranous deposit and in part by extravasated blood. Sections were made of the infrahyoid muscles and the muscle fibres were widely separated by blood which in places had torn the muscles across. Bacteriological culture showed the diphtheria bacillus. (Dr. Foxcroft's abstract in *Laryngoscope*, April, 1899.)

DIPHTHERIA OF THE FLOOR OF THE MOUTH.

(From Dr. Goodale's paper.) Examination twelve hours after onset of the symptoms showed the patient to be a fairly well developed woman, aged 36 years, in apparently good health, except for the lesions within the mouth. The floor of the mouth exhibited a marked diffuse swelling of soft elastic consistence. On either side a fold of membrane running antero-posteriorly appeared as a reddened prominent ridge, on a level with the top of the inferior incisors, firm and elastic in consistence, translucent except on the anterior margin and extreme summit, which was covered with a white exudate. This exudate on close inspection was seen to consist of a fine delicate tracery of white lines, roughly parallel to each other, arranged in undulating waves and in places aggregated to form white opaque areas. Moderate salivation was present. No foul odour was apparent beyond that which might naturally proceed from several carious teeth. The gums were reddened, moderately spongy and swollen. The glands below the jaw were moderately enlarged, but not tender. The general condition of the patient was not affected. Under a simple cleansing mouthwash the conditions rapidly improved, the exudate disappearing in three days, and the floor of the mouth appearing normal at the end of a week. The bacteriological examination showed the case to be one of diphtheria. (*Laryngoscope*, January, 1899.)

DIPHTHERIA.—Results of the Serum Treatment.

Dr. Herman M. Biggs read a paper with this title before the New York Academy of Medicine. He said that his first paper on the antitoxin treatment of diphtheria, read before the Academy in 1895, had aroused much opposition, but since then there had been sufficient knowledge and experience accumulated markedly to alter many of the opposing views then expressed. On January 1, 1895, the New York Health Department had begun the use of antitoxin prepared in its own laboratory. All the preparations of serum at that time had been of low grade,

and their use had for a long time been discontinued in the city. From January 1, 1895, to October 1, 1896, 1,256 cases of diphtheria had been treated with the antitoxin, with 198 deaths, or a mortality of 15·8 per cent. If 80 cases, moribund at the time of the first injection and dying within twenty-four hours, had been deducted, the mortality would have been 10 per cent. From October 1, 1893, to January 1, 1898, 1,195 more cases had been so treated, with 163 deaths, or a mortality of 13·6 per cent. From January 1, 1898, to January 1, 1899, 626 additional cases had been subjected to this treatment, with 68 deaths, or a mortality of 10·8 per cent. If 21 moribund cases were deducted, the mortality for last year would be 7·7 per cent. Thus, during the whole period from January 1, 1895, to January 1, 1899, 3,073 cases had been treated with diphtheria antitoxin, with 429 deaths, and an average mortality of 13·9 per cent. If 172 moribund cases were deducted, the mortality would be 8·8 per cent. The cases referred to had been treated, as a rule, in the most unfavourable tenement districts, and many of them had not received the antitoxin until the later stages, when they had been considered by their attending physicians well-nigh hopeless. (Medical Record, March 4, 1899.)

Diphtheria.—Serum Treatment.

Three cases of constitutional disturbance occurring soon after the injection are published in the appendix to the report of the Antitoxin Committee of the Clinical Society of London. In each case the patient had had previous injections and each recovered. They all occurred during the year 1897 at the Homerton Fever Hospital, and were female children aged respectively 4 years, 6 years, and 3 years. The first patient (35 days previously) had 12,000 units injected in three doses. Twenty minutes after an injection of 4,000 units the patient had a rigor and convulsions, with a temperature of 105° F. When this passed off the child vomited several times, and on the following day there was a mixed urticarial and erythematous rash. The second patient had 4,000 units 37 days previously and 30 minutes after the injection of 4,000 units had a rigor and became quite collapsed with a temperature of 105°. On the following day a mixed erythema and urticaria appeared at the seat of injection. The third patient had been given 14,000 units 47 days previously, and 15 minutes after 4,000 units had been injected the patient vomited and was covered with a general urticarial eruption. Two hours later she had a rigor with collapse, and six days later still a macular erythema appeared. In conclusion, one may say that the complications of antitoxin are at times very painful and inconvenient but quite harmless, the only exception being the case in which sloughing

occurred, and in that case the child was in an exceedingly bad condition as the result of scarlet fever and diphtheria combined when the antitoxin was administered. (From Dr. Bolton's paper in *The Lancet*, April 1, 1899.)

FOOD STUFFS, PREPARED.

Bardet (*Bull. gén. de therap.*, Paris, March 30, 1898) divides these preparations into two classes—(1) Those still undigested, or only in part; (2) those fully predigested. The substances in the first class may further be separated into those of the nature of a food, and those of more artificial form. The first of these subdivisions forms the class common in France, the second that found in Germany. Preparations of casein of French manufacture, biscuits of legumin, scones made from vegetable albumens, are recommended for diabetes and gastric fermentation. The German casein preparations do not impress him as of being nearly so useful as the casein present in ordinary foods. The calcium-casein of Röhmann, and the artificial vegetable milk of Lahmann, present no very good reason for their use. He draws attention to the effect of the national habits upon the form of artificial food most approved of by the French and the Germans. The French prepare most of their food in a fresh unaltered form; the Germans alter the properties and characters of theirs in a marked way. He especially regards Adrian's meat-powder, made from roast flesh, with favour, and says a good word for somatose. (*Edinburgh Medical Journal*, February, 1899.)

GARGLING.—The Utility of.

In order to ascertain whether there are varied reasons for maintaining the practice of gargling, Dr. Sanger has made some experiments, the results of which he published in the *Münchener Medicinische Wochenschrift*. He points out that the therapeutic utility of gargling depends on whether the fluid employed reaches the pharyngeal mucous membrane and the tonsils or not, and for the purpose of arriving at a definite conclusion he brushed the tonsils of a patient with methylene blue and made him afterwards gargle with water. In the result the water when ejected from the mouth was colourless, neither was there any blue tint visible in the interior of the mouth, although the tonsils continued to be intensely blue. Obviously, therefore, the fluid had not reached the tonsils. The same result was obtained in every instance. In another series of experiments the velum, a portion of the tongue, and the tonsils were dusted with wheat flour, after which the person made use of a gargle consisting of a solution of iodine in glycerine, the consequence being that the velum and the tongue showed the blue colour of starch acted on by iodine, whilst the flour on the tonsils was

neither coloured nor washed away. Dr. Sanger, therefore, concludes that gargling is useless, and that where this kind of local treatment is indicated it would be better to swab the pharyngeal mucous membrane with pieces of cotton-wool, avoiding brushes, which are liable to injure the mucous membrane. (*Medical Age*, May 10, 1899.)

GOITRE, EXOPHTHALMIC.

Dieulafoy employs ipecac in most cases as a remedy for the vascular erythism. R Pulv. ipecac., gr. xxx ; pulv. digitalis fol., gr. xv ; ext. opii, gr. iv. M. Ft. pil. No. L. Sig. Two to four pills a day. The ipecac is never to be pushed to the extent of causing vomiting, but slight nausea is allowable. It is to be continued for at least several months. Valerianate of ammonia may often be given with good effect, and hydrotheraphy is recommended for an indefinite period. (*Medical News*, February 25, 1899.)

HEMORRHAGE.—A New Treatment of.

Carnot (*Therapeutic Gazette*, January 16, 1899) has recently called attention to the value of hypodermic injections of sterilised gelatine solutions for the purpose of increasing coagulability of the blood in general. He also mentions that the local use of these solutions is exceedingly valuable in controlling capillary or oozing hemorrhage, where compresses fail to produce the results desired, and this substance often suffices when preparations of the iron and the acids fail. When employed as an injection it is absolutely essential that the solution is sterile. The solution used by Carnot is gelatine 12 drachms, chloride of calcium $2\frac{1}{2}$ drachms, and water one quart. One or two ounces of this solution is given under the skin into the loose subcutaneous tissues of the back or thighs. It is said to act very speedily in causing coagulation at the bleeding point. When the solution is applied to exposed bleeding points care must be taken after the gelatine is applied to prevent putrefactive changes. This is especially so in cases of nasal wounds. There is some danger with the hypodermic injections of producing hyper-coagulability of the blood. Carnot thinks that when it is necessary to give such injections it is best to give the calcium chloride itself. (*The Laryngoscope*, March, 1899.)

HEROIN.

Heroin is one of the newer morphine derivatives, and promises to be a most useful member of this class of drugs. It is a fine white powder of slightly bitter taste. Dreser, Floret and Strube testify to its value in the prevention of cough in doses

of 0.01 gramme ($\frac{1}{4}$ grain). Leo (*Deut. med. Woch.*, 1899, p. 185) observed nausea, dizziness and fainting at times with this dose, but with 0.005 gramme ($\frac{1}{3}$ grain) in powder form twice or thrice daily no threatening symptoms appeared, though the patients at times complained of drowsiness and nausea. In painful affections, for example, sciatica, Leo found it less efficient than morphine or codeia, and even in irritative cough it did not equal those remedies, thus disagreeing with the above-mentioned observers. On the other hand, he agrees with them in thinking it of extraordinary value in dyspnœa, as Dreser's experimental work would lead one to expect. Just as digitalis slows the pulsations of the heart and increases the force of each beat, so heroin regulates and strengthens the activity of the lung. These results are based on the treatment of two cases of dyspnœa in nephritis, eight cases of emphysema, fifteen of bronchitis, and five of bronchial asthma. Several patients previously obliged to sleep erect were able to pass the whole night lying down. As a rule, when the drug was left off the dyspnœa returned, but occasionally the relief was permanent. In some cases expectoration was made difficult after the use of heroin, but by combining the drug with potassium iodide both Schwalbe and Leo obviated this occurrence. Heroin itself is not adapted for subcutaneous use, because of its insolubility, but the hydrochlorate of heroin is soluble. Eulenburg (*Deut. med. Woch.*, 1899, p. 187) has used this about three hundred times without any local discomfort to the patient. He recommends the same dose as Leo, confirms its value in cough and dyspnœa, and, contrary to Leo, has had good results in neuralgies. In addition, he has given it to chronic morphinists, and they have been able to replace four doses of morphine by two of heroin, and with even a gradually decreasing quantity of the same. The appetite and nutrition furthermore showed less disturbance than when under the influence of morphine. As a narcotic heroin is not equal to morphine. By long use the dose must be gradually increased. (From Dr. Joslin's abstract in the *Boston Medical and Surgical Journal*, May 4, 1899.)

HICCUGH, OBSTINATE.—Treatment of.

In a severe case Dr. Kolipinski (*Maryland Medical Journal*, January 18, 1899) directed the patient to sit up, and with a large spoon-handle, pressing the tongue down and back with steady force, was enabled to inspect the fauces. He found the soft palate congested and the uvula thickened and elongated. The hiccough recurred twice, and each time could be noted the elevation of the soft palate and uvula in the act. He continued the firm pressure on the tongue with the hope

of further noting the action of the palate muscles, when to his surprise the hiccough ceased. Under a dose of morphine and chloral the patient passed a comfortable night. An hour after Dr. Kolipinski's departure the hiccough returned, but the patient with great zeal and confidence placed himself in front of a mirror, passed the spoon-handle to the back of the tongue, and with both hands depressed and steadied it. The hiccough at once ceased. In the morning, on awakening, the hiccough returned, but stopped spontaneously on his getting up and dressing. Two days later it reappeared, but was promptly arrested by the patient himself in the manner described. The time required in each instance to accomplish the desired result was one minute or less. (*Therapeutic Gazette*, May 15, 1899.)

HYDRASTININE AND COTARNINE.

Rousse (*Archives internationales de pharmacodynamie*, iv., 3, 4, and v., 1, 2; *Centralblatt für Gynäkologie*, January 21) has found hydrastinine hydrochloride, in pill form, very effective in uterine hemorrhages, phthisical night sweats, hæmoptysis, epilepsy, and nephritis. Its hæmostatic action is particularly shown in all cases of congestive metrorrhagia, in menorrhagia, in hemorrhage after parturition and abortion, in hemorrhage consequent upon displacements of the uterus or diseases of the annexa, and in hemorrhage during pregnancy and labour. In myoma and carcinoma it is of no use. It has no unpleasant effects; it does not upset the stomach, even when given in large doses. Cotarnine hydrochloride slows the action of the heart and gives tone to it, so that it is of great value after losses of blood. On the other hand, it has no vasomotor action, although it strengthens and accelerates the contractions of the gravid uterus. Hydrastinine is particularly distinguished from cotarnine by its greater rapidity of action, so that it may be recommended as a stimulant, in place of ether and camphor, in severe acute anæmia. Cotarnine acts more slowly, but more permanently, and is preferable in chronic uterine affections, especially venous stases. Both drugs strengthen the pains of labour, and probably may awaken them. Hydrastinine contracts the uterine and intestinal blood-vessels; cotarnine dilates them. The author thinks, therefore, that both remedies are useful in hemorrhage due to uterine atony, but hydrastinine is to be preferred. (*New York Medical Journal*, February 11, 1899.)

ICE-BAGS IN PYREXIA.

(From Dr. L. B. Lockard's paper.) In these diseases—viz., typhoid fever, &c.—there are three common methods in vogue: the Brand, or cold plunge, the cold sponge, and the ice-pack.

The question arises as to how cold can be used so as to give us a method easy of application, certain in its results, and so simple that it can meet with no objections from the ignorant? All of these requirements are met by the use of ice-bags applied over the arteries at their most superficial points, and continued in place until the temperature has become normal, then removed, excepting for those requisite to keep the temperature near the normal point. To the advantages enumerated it boasts one not possessed by the other methods, and one of no slight importance: the non-necessity of disturbing the patient. The number of bags to be applied and the mode of use necessarily differ in each case, according to the individual type of disease and the degree of pyrexia. As the temperature falls, it becomes necessary to gradually reduce the number in use, and care must be exercised that it fall not too low, as may and frequently does happen. The usual way in moderate degrees of fever, say 102° F., is to use four bags, one in each axilla and one in each popliteal space. If the fever is still higher, these are reinforced by one to the nape of the neck and one at each wrist, and in exceptional cases it becomes necessary to place others at the ankles. If any special indications are to be met—viz., pneumonia, headache, pericarditis, inflamed joints, &c.—they may also be applied to the affected areas. In the course of an hour, on an average, the fever will begin a gradual decline and continue to fall until, in many cases, if all the bags are continued in force, it becomes subnormal. As soon as any increase is noticeable they should be renewed one at a time until the fever is under perfect control. By this method it has been possible in a considerable number of cases to keep the temperature of typhoid fever at a fairly stationary point; it never exceeding 102° F., the degree at which the bath is commonly given. (New York Medical Journal, December 10, 1898.)

INFANT FEEDING, MILK WHEY IN.

(From Dr. Henry Ashby's paper.) I am inclined to think that, at the present time, the value of whey for infant feeding is often overlooked or forgotten. Perhaps the most ready way of preparing whey for infant feeding is to use Hawksley's sterilising apparatus, as it is provided with a thermometer, and consequently the temperature can be regulated. Thirty oz. of good fresh milk are placed in the bottle provided, and the heat raised to 104° F.; add two teaspoonfuls of Benger's essence of rennet, and set aside for a few minutes. When curdling has taken place, thoroughly break up the curd by stirring and shaking the bottle; then strain through fine muslin or a colander. In this way 22 or 23 oz. of an opalescent fluid is obtained, which should be heated to 160° F. for 20 minutes, in

order to destroy the rennin. It may require a further straining, as more curd is apt to form on heating. Whey prepared in this way, with or without an addition of 2 or 3 drms. of milk sugar to the pint, makes a useful food for newly-born infants who have to be artificially fed, or for infants who suffer from chronic vomiting, or have liquid, green, and curdy stools. They will gain weight and be more comfortable than when taking diluted milk. A weak "humanised" milk may be made by adding 10 oz. of fresh milk to 20 oz. of sterilised whey, and adding $\frac{1}{2}$ oz. of milk sugar. To make a "humanised" milk more rich in fat, use "top milk" in the same proportion. Let a quart of fresh milk stand in a covered glass jar in a cold place for four or five hours; remove the upper 10 oz. by skimming, add this to 20 oz. of sterilised whey with $\frac{1}{2}$ oz. of milk sugar. It is always well to add a grain or two of carbonate of soda, to render the mixtures neutral or slightly alkaline. It is often convenient to give dyspeptic infants whey at first, or even dilute the whey with a solution of maltose or barley-water, as such infants cannot always digest as much as 2 per cent. of fat in their food. As they improve, add milk to the whey, or "top-milk," as their digestive powers gain strength. (*Edinburgh Medical Journal*, April, 1899.)

IODISM.—Rare Symptoms of.

At a recent meeting of the Société Médicale des Hôpitaux, of Paris, Danlos (*Philadelphia Medical Journal*, February 18, 1899) described some rare manifestations of iodism that had developed in a man aged sixty years. Seven and a half grains of potassium iodide taken one day, and fifteen grains taken the next, were followed by coryza, unpleasant taste, and painless symmetric suprahypoid tumefaction, not reaching to the parotid. On palpation there was slight tenderness, no oedema, and the submaxillary glands were found swollen and somewhat tender. The administration of the iodide being interrupted, the manifestations subsided, but recurred on two subsequent occasions, immediately following the exhibition of the drug. Elimination of iodide by the patient was very slow, a trace appearing in the urine only at the end of two hours. Danlos also detailed notes of a syphilitic who was given forty-five grains of potassium iodide daily. After a lapse of ten days violent itching and an erythematous and bullous eruption developed. The iodide being discontinued the eruption persisted, the itching being so intense at the end of twelve days that the patient was prevented from sleeping. The eruption remained for six weeks after the cessation of administration of the iodide, disappearing after a

ten days' exhibition of sodium arsenite. The eruption was a typical dermatitis herpetiformis, affecting the hands, face, ears, feet, trunk, and arms. (*Medical Age*, March 10, 1899.)

IRON ABSORPTION.

From an experimental study, Dr. A. E. Austin concludes :— (1) That iron is constantly being eliminated both in urine and fæces, even during fasting. (2) That apparently raw meat furnishes an available form of iron for absorption under normal conditions. (3) That inorganic iron as represented by ferrous sulphate is non-absorbable. (4) That albuminates and peptonates of iron are absorbable but to a limited extent. (5) That organic iron, of which hæmatin and hæmoglobin are representatives, furnishes the most easily absorbable and most valuable of all iron preparations. (*Boston Medical and Surgical Journal*, March 2, 1899.)

LEUKÆMIA, ACUTE.

Fussell, Jopson, and Taylor (*Trans. of the Assoc. of Amer. Physicians*, 1898) report two cases, in both of which death occurred within seven weeks. In one case (female, aged 37) the symptoms commenced with dyspnœa, palpitation, headache, and weakness; repeated epistaxy occurred, and the glands in the neck were enlarged. The spleen and liver were increased in size, and could be felt below the ribs. Diarrhœa, nephritis, and febrile symptoms developed. The case is said to have resembled one of typhoid fever. The number of red corpuscles was 1,184,000, and the white corpuscles 241,333 per cmm.; the hæmoglobin, 32 per cent. Abstracts of 54 cases, collected from medical literature, are added, and the symptoms, morbid anatomy, &c., analysed. The greatest number of cases occurred between the ages of 10 and 30. In the 56 cases analysed the average duration from the first symptom until death was 39 days. The blood changes are important. The red corpuscles are usually diminished below 3,500,000 per cmm., often below 2,000,000, occasionally below 1,000,000. The leucocytosis is moderate, often being below 100,000, but once up to 500,000 per cmm. The leucocytes are mostly mononuclear cells—lymphocytes; but this is not invariably the case. Usually the polynuclear cells are not increased, but in a few cases they have been notably increased. The eosinophile cells are usually scanty. In a few cases typical myelocytes have been present, but in three cases only to any great extent. The diagnosis is based on the rapid development of anæmia, with petechiæ or hemorrhages from the mucous membranes, enlargement of the lymph glands, fever, moderate enlargement of the spleen and

liver, diminution of the red corpuscles and increase in the white corpuscles, which are chiefly of the mononuclear form. The excess of white corpuscles in the blood, chiefly of the mononuclear form, separates the cases from purpura, pernicious anæmia, scurvy, Hodgkin's disease, and a number of affections in which slight leucocytosis may occur. (From abstract in *Medical Chronicle*, February, 1899.)

MALARIA.

Light was thrown on the etiology of malaria by the Koch Commission. It had been assumed by some that the so-called semilunar forms and the flagellated bodies derived from them were degenerated forms of the malarial parasite, mainly on the ground that they did not take on a chromatin stain—a sure indication that the reproductive powers of an organism have been lost. Owing to the improvements in Romanowsky's staining method, however, it was discovered, first, that there were chromatin bodies in the semilunar forms; and, secondly, that the so-called flagella contained chromatin, and were really analogous to spermatozoa. Koch was able to recognise in Italy the parasite (proteosoma) in birds, the development of which Ronald Ross has described. He was able to confirm Ross's statement that after the blood infected with proteosoma has reached the stomach of the mosquito, a number of coccidia-like bodies make their appearance, and that within these spores develop, some of which ultimately reach the poison-salivary glands, whence they are injected into the victim's skin. Professor Koch and his colleagues were thus able completely to confirm Ross's observations, and they express the opinion, founded on the close resemblance of the malarial parasite to the proteosoma, that it is probable that the two have a similar life-history. Ross's work is therefore, they conclude, of the greatest value as a guide to future workers in the field of human malaria. (*British Medical Journal*, February 18, 1899.)

MALARIA AND QUININE.

Camac (*Johns Hopkins Hosp. Bull.*, April, 1899) says that the temperature-chart after the administration of quinine will often enable a physician to determine whether or not a fever is malaria, and if so, of what type. It is desirable to know the character of the fever-curve before quinine is given. Fever which shows no sign of breaking after the administration of quinine every four hours for three days, is not malarial, and to give the remedy a further trial is not only useless but possibly harmful. If the fever yields earlier than the third day on

moderate doses, it is likely to be of the tertian or quartan type, either double or single. In the estivo-autumnal type the temperature often fails to touch normal between the paroxysms. Its resistance to quinine has led Italian observers to speak of the gradual destruction of its parasite by quinine as "fractional sterilisation." In this form, naturally, the administration of the quinine should be continued longer than in the others. (Medical News, May 20, 1899.)

MALARIAL ORGANISM, THE

Before the New York Academy of Medicine, Dr. James Ewing, with the aid of lantern slides, described minutely the changes observed in the life history of the three principal types of the malarial parasite, viz.: (1) The tertian, (2) the quartan, and (3) the estivo-autumnal. Dr. Thayer, of Baltimore, said there did not seem to be any good evidence of the existence of a capsule in the crescentic forms of the parasite. It was known that the flagellate forms of the parasite developed from round bodies, which were derivatives from crescentic forms. It seemed to him that the crescents were sterile bodies, in so far as the individual in whom they were found was concerned. Within the last year, in India, Ross had succeeded in cultivating the malarial parasite of birds outside of its host, *i.e.*, in mosquitoes. Since then an Italian observer had found that if a certain variety of mosquito was fed on the blood of a person having crescent bodies in the blood, flagellate bodies would develop within the mosquito, and an estivo-autumnal malarial fever could be transmitted in this way by the bite of the mosquito to human beings who had never had malaria. These experiments showed that while crescent bodies were sterile, they were capable of giving rise to another stage of the parasite, thus allowing of another cycle of development outside of the body and of re-entering the human system through the bites of mosquitoes. The late development of malaria in some instances might be explained on the hypothesis of a direct transmission from one person to another by means of mosquitoes. He had never seen anything to suggest that the different types of the parasite were interchangeable, except the tendency for recrudescence cases to be tertian. He would like to know whether Dr. Ewing had been able to trace in the same individual an estivo-autumnal malaria in the summer, and a tertian in the fall. Dr. Ewing replied that in one case the patient had had only rings and crescents in his blood during the summer, whereas in a relapse occurring the following February the tertian parasite had been present. (Medical Record, April 29, 1899.)

MALTA FEVER TREATED WITH MALTA FEVER ANTITOXIN.

(From Drs. Fitzgerald and Ewart's paper.) An officer serving with the Mediterranean squadron at Malta contracted Malta fever and went on the sick list on August 11, 1898. The treatment was not stated, but he returned to duty on September 3. On September 23 he was again placed on the sick list, when his temperature was 102° F. For a week previously he had felt ill, with severe pains across the eyes and at the back of the head. On October 7 he went into Malta Hospital. The temperature was very variable, the highest being 103.8° . He had rheumatic pains and severe headaches. On October 22 he was invalided home. When first seen the patient was anæmic in appearance, the heart sounds were muffled and weak, and the temperature was intermittent, sub-normal in the morning and from 100° to 101° at night. He complained of rheumatic pains, his tongue was furred, and his liver was slightly enlarged. The patient was put to bed, was placed on a milk diet, and was treated with phenacetin and calomel. He improved considerably in a few days, and was put on iron and quinine and later on arsenic. Although he improved temporarily under treatment and was able to get out, he constantly had relapses. His temperature never remained normal for more than a week or ten days together, his anæmic condition persisted, and he really got no better, no treatment appearing of any permanent benefit. Major Semple, of Netley, informed us that they were then carrying out this treatment at Netley and that they had treated some 50 cases, including both Professor Wright and himself, with marked benefit; whereas they found that when all drug treatment failed the antitoxin treatment had been generally successful. By the courtesy of Major Semple, we were supplied with 60 cubic centimetres of the serum, and Major Semple also examined a specimen of the patient's blood, but the Malta fever germ was not detected, and he informed us that he usually failed to find it in the blood. On January 31, 1899, with all the usual precautions, we injected 20 cubic centimetres of serum. The temperature had been below normal for five days previously. On the following day the temperature was 99° , and we again injected 20 cubic centimetres. A smart attack of urticaria came on on February 6, commencing at the abdomen, which was the seat of inoculation. On February 12 the temperature began to rise again, reaching 102° on that night. The patient was fairly well, though the discomfort from the urticaria was considerable. On February 13, as the temperature was still high, we injected a third dose of 20 cubic centimetres of the serum. This was followed by a serious reaction, the temperature rising to 104.6° on

February 15, and the patient looking and feeling very ill, with urticaria all over his body. The joints were swollen and painful, the breathing was quick, there was slight cough, and the expectoration was tinged. It seemed that he had a general urticaria, both externally and internally, causing exudation from the various serous membranes. These grave symptoms gradually subsided, the temperature slowly falling at the same time, and on February 21 it was normal and the patient was convalescent, and had no further return of the disease. (*The Lancet*, April 15, 1899.)

MUMPS AND DIABETES.

Dr. H. F. Harris relates a case of diabetes quickly following upon mumps. He concludes as follows:—Diabetes may follow mumps so quickly that there is at least a strong suspicion that the former disease may be induced by the latter. It is not probable that the diabetes is the result of changes produced in the salivary glands, but their removal in dogs is followed by a slight glycosuria. On account of the close resemblance in structure between the salivary glands and the pancreas, it would seem probable that a general disease, like mumps, which causes changes in the one, would at times likewise produce alterations in the other. There is no well-authenticated case of pancreatic inflammation having followed mumps, but in, at least, one instance there is a suspicion of it having done so. Inflammatory changes having once been set up in the pancreas, all analogy would lead to the conclusion that in some instances they might become chronic, and that serious alterations in function would result. Disturbed functional activity of the pancreas, if marked, probably in all cases leads to diabetes. Alterations in the pancreas and salivary glands, which are in every way similar, occur in at least some cases of diabetes. These alterations are apparently produced by some general cause which acts on all of the glands belonging to this particular group. (*Boston Medical and Surgical Journal*, May 18, 1899.)

NAFTALAN.

Dr. Rosenbaum (*Therapist*, November 15, 1898) said that naftalan has been used extensively in St. Michael's Hospital, Tiflis, during the months of March, April, and May, with the following results:—(1) The remedy proved in all cases to be completely harmless, as he never noticed any damaging consequences or by-effects. (2) It possesses wonderful soothing properties upon burns of the first and second grade, thereby preventing inflammation, and excels therefore in this respect all hitherto known remedies. (3) It acted excellently in various diseases of

the skin, especially in acute and chronic eczema, pityriasis, seborrhœa capillitii, and psoriasis, in which cases the remedy produced a marvellous healing effect, even in cases where all other remedies recommended by science had failed. (4) It favourably influenced the progress of the disease in erysipelas of the face, checking the progressing inflammatory progress and reducing the temperature to normal on the second and third days, the patient thereby feeling very well. (5) It develops an antiseptic, anti-inflammatory action, and accelerates the healing process, in inflamed wounds and abscesses. (6) It is soothing, is readily absorbed, and heals quickly in cases of bruising and sprains, even of long standing. (7) In rheumatic and gouty pains the patients experience quick relief of the severe pains, and if its use is continued a complete cure is effected. (8) It has reducing and soothing effect in cases of epididymitis, buboes, and inflamed lymph glands. (9) Lastly, naftalan was extensively employed as a basis in the preparation of our mercurial ointment (2 : 1), whereby it was found that the mercury could be more readily incorporated with naftalan than with fat and lanolin. The mercurial ointment prepared with naftalan was readily absorbed by the skin. It is sufficient to smear it on the parts, with slight pressure; strong pressure is apt to cause furunculosis, which may be explained by the fact of the sebaceous glands becoming blocked by the mercury. The symptoms quickly disappeared on treatment with the ointment prepared in this way. The best method to use naftalan is to spread a layer—as thick as the back of a knife—on linen, and cover the diseased part with it; or the ointment may be placed directly on the diseased part and then cover with linen or cotton wool. Seeing that the ointment is quickly absorbed by the skin, it is recommended to use it twice a day. (*New York Medical Journal*, December 24, 1898.)

ORGANOTHERAPY.

Hillemand has published a short pamphlet on this subject, and sums up his conclusions as follows:—(1) Treatment with thyroid preparations is the only method of this kind, the efficacy of which has been established with certainty. (2) The innumerable experiments with other glands or tissues have as yet led to no certain conclusions; nevertheless, the value of the thymus, pituitary body, suprarenal capsules, testicles, liver, and nervous tissues, has some serious testimony in its favour. (3) The theory of internal secretion has only been definitely proved in the case of the thyroid and liver. (4) It is, however, probably true also as regards the thymus, the pituitary body, the suprarenal capsules, and the spleen. (5) There is no proof of internal secretion in the case of the pancreas, the kidneys,

the prostate, the mammae, the testicles, and the ovaries. Such proof may be forthcoming on further investigation, and it is not improbable. (6) There is also no proof of internal secretion in the case of the lungs, bone-marrow, muscles, cartilage, nerve-tissue, &c., but it is also highly improbable and rests only on analogy. (7) Even if a certain therapeutic efficacy be proved for the testicles, bone-marrow, or nerve tissue, it need not necessarily depend on an internal secretion. Their action may be antitoxic or simply tonic apart from their secretion. (Edinburgh Medical Journal, June, 1899.)

PARALDEHYDE IN ASTHMA.

As far as I have been able to find out, Dr. Mackie, of Elgin, was the first to suggest the use of, and to use, paraldehyde for the relief of asthma. He administered it in a number of cases with uniformly successful results, and found that it speedily relieved the spasm and induced sleep. My attention was drawn anew to this a few months ago, and since then I have given the drug in a fairly large number of cases of idiopathic asthma and other forms of spasmodic dyspnoea, and my experience confirms that of Dr. Mackie. No drug in my hands has given such satisfactory results. Paraldehyde is absolutely safe. It not only relieves the spasm but it induces tranquil refreshing sleep without any objectionable after-effects. Besides, no evil results follow a prolonged use of paraldehyde; it does not give rise to a habit, and on this account it is a much more desirable drug than morphine or chloral. The mere obtaining of sleep is of great importance for the asthmatic patient, the strength is saved, and what is lost during the day may be more or less regained. The prevention of the spasm is even a greater boon, seeing that each attack increases and prolongs the accompanying bronchitis. Iodide of potassium and tincture of lobelia, as a rule, do much to relieve the bronchitis and to lessen the spasm, but their effect is immensely increased by securing sleep and the prevention of the nocturnal spasms by means of paraldehyde. The drug occasionally causes sickness, and for this reason it proved of no use in a severe case of long standing bronchitis and emphysema. Its disagreeable pungent taste makes it objectionable to children and nervous patients, but it is well disguised in cinnamon water and tincture of orange-peel. It acts as a rule so rapidly that the dose ought to be taken after the patient has gone to bed. In adults, I find it best to begin with a dose of 60 minims, and as Dr. John Gordon pointed out, as a result of his experimental use of the drug, the same dose has equally good hypnotic effect when it has been taken for months. (From Dr. MacGregor's paper in *The Lancet*, February 11, 1899.)

PHENALGIN.

Dr. Hofheimer (*New York Med. Jour.*, December 24, 1898) has tried the drug first on himself for migraine, and found that 5 grains was sufficient to give him complete relief within an hour. Since that time—over a year ago—he has used the drug largely. In dysmenorrhœa he has used it with good effect. He usually orders a 10 grain dose at the beginning of menstruation, to be followed by 5 grain doses every four hours for the first thirty-six hours. He has employed phenalgin, alone or in combination, with excellent results in abdominal neuralgia, sciatica, malarial cephalalgia, influenza, gastralgia, pleurodynia, myalgia, and gout. He has used phenalgin in combination with sodium salicylate, salol, or lycetol in rheumatism and gout. He has used it along with anti-ferments and peptogenic compounds in the various forms of dyspepsia and gastralgia. With guaiacol carbonate it has given great relief in phthisis. Combined with arsenic or quinine, or alone, it has been successful in malarial affections. In combination with bromides or trional for insomnia it was found to do well, causing a relatively smaller dose of these two drugs to act with increased energy. Dr. Hofheimer believes phenalgin will be found useful in all cases where pain is a prominent symptom, acting especially well in rheumatic and neurotic cases. It has anti-pyretic powers, like most drugs of its class, and in malaria, used alone or with small doses of quinine, it aborts or shortens the attack. It has hypnotic as well as anodyne properties, and is of great service in cases where opiates are often indicated, especially as it leaves no bad after-effects, and engenders no habit. (From Dr. F. J. H. Coutts' paper in the *Medical Chronicle*, January, 1899.)

PLAGUE.—Prevention of

In India the two facts which have come to the front are the danger in relation to plague of (*a*) rats, and (*b*) abrasions on the skin; and it may be said that the following are the most important items in the spread of plague:—(1) Filthy habits of the people, such as spitting over the floor, &c.; (2) filthy houses; (3) overcrowding, and consequent rapid increase of contagious disease when once imported; (4) presence of rats, insects, and other vermin; (5) the naked condition of the people going about, such people presenting almost unlimited opportunities for the entrance into their tissues of plague poison by inoculation and through abrasions; (6) pollution of soil and houses with the excretions of man and animals; and (7) filthy clothing and absence of bodily hygiene. (From Dr. Poore's Milroy lectures, *British Medical Journal*, February 25, 1899.)

PNEUMOCOCCUS, THE.

There are a large number of types of the pneumococcus which differ from one another in virulence and in biological characters. At the one end of the scale is the parasitic type—the typical pneumococcus of the text-books. This type leads with difficulty a saprophytic existence; it will only grow at temperatures approaching that of the human body, it will not grow upon media which are faintly acid, and it rapidly dies out when cultivated upon agar or in broth. Rabbits inoculated with this type die from septicæmia, and the blood after death is found to be crowded with diplococci. At the other end of the scale is the saprophytic type, which was obtained from a typical pneumococcus by a special method of cultivation. This type grows luxuriantly at 37° C., and at 20° C. in broth, and on agar, potato, and gelatin, whether acid or alkaline, and retains its vitality upon these media for many weeks. In correspondence with the luxuriant growth its morphology is different to that of the parasitic type; in place of isolated diplococci and streptococci, large masses of cocci and diplococci are found, and forms divided into tetrads like the gonococcus are common. It is almost devoid of virulence, and we were only successful in infecting one out of a large number of rabbits inoculated. From the blood of this animal we obtained a typical pneumococcus with the usual parasitic characters. Intermediate between these types are pneumococci which will grow at 20° C., although not so luxuriantly as the saprophytic type, and which possess but slight virulence. We believe it to be well established that the types which grow best on artificial media are possessed of the least virulence. On the other hand, pneumococci with the biological characters of the “typical” pneumococcus may differ considerably from one another in virulence. (From Drs. Eyre and Washbourn’s paper in *The Lancet*, January 7, 1899.)

RHEUMATISM, CARDIAC COMPLICATIONS OF ACUTE.

Dr. Edwards finds the diagnosis of functional and organic murmurs far more complicated than is inferred from schematic text-book teachings. Leube says, for example, that functional murmurs are rare in acute articular rheumatism, while they are frequent according to Senator. Hence, even in an acute heart murmur, its disappearance may be interpreted in two ways: (1) as the disappearance of a functional murmur when the fever falls, the heart slows, or the enema mends; or (2) as the healing of a slight endocarditis. Endocarditis is usually verrucose, rarely ulcerative, and not all instances of even fatal endocarditis in rheumatism are ulcerative. Endocarditis is more apt to

occur when many joints are inflamed, but may antedate the arthritis. Its frequency, in Dr. Edwards' experience, is about the average figure given, 20 per cent. Other figures are 50 per cent., 20–28 per cent., 9 per cent. Osler states that rheumatism explains more cases of pericarditis than all other causes combined. It is the most frequent lesion in children. Its frequency is 20 per cent., 54–70 per cent., 13 per cent. Myocarditis occurs as embolic, or as extensive, by contiguity of tissue. It may cause sudden heart pain with weakness, and the subject dies—the “heart rheumatism” of the laity. Other cardiac occurrences are transient—palpitation and cardiac oppression, fugitive in character, and without cardiac findings, and tachycardia due to pain or physic excitement. As a practical point, the right heart may be dilated, as it is in other fevers and in various abdominal affections, to disappear with convalescence. It may, when accompanied by a hemic murmur, induce the incautious clinician to diagnose endocarditis. The rapid, extreme, and stubborn anæmia of acute rheumatism is striking clinically and highly suggestive therapeutically. (*Journal of American Medical Association*, February 11, 1899.)

RHINITIS, PSEUDO-MEMBRANOUS.

Dr. Price-Brown draws the following conclusions:—(1) That non-diphtheritic pseudo-membranous rhinitis does sometimes occur; and though a very rare disease, it is probably as frequent as primary nasal diphtheria. (2) That on clinical grounds alone it is possible, in a majority of cases, to distinguish it from genuine diphtheritic disease. (3) That owing to a possible mistake in diagnosis, isolation in all cases should be imperative, until a reliable bacteriologic examination can be made. (*Journal of the American Medical Association*, May 6, 1899.)

RICKETS.—Diet in.

Under seven months, mother's milk, supplemented, or substituted if necessary, by fresh cow's milk diluted with at least one-third boiled water, and slightly sweetened with white sugar, with the addition of a teaspoonful of lime water to each bottle, afterwards a little rusks, yolk of egg, broth, or a small quantity of beef-tea or gravy daily. Later the milk may be thickened with well-baked wheaten flour. After twelve months strong beef-tea may be added, and meat juice or pounded warm mutton or beef, a few teaspoonfuls daily. Freshly gathered stewed stone fruit is of great benefit in the later feeding of a case, and in older children. (From Mr. Chrisholm Williams' paper in the *Medical Press and Circular*, April 19, 1899.)

SALICYLATE DELIRIUM.

Rendu, at a recent meeting of the Société Médicale des Hôpitaux, reported the case of a woman of thirty who was admitted to the hospital owing to an attack of subacute polyarticular rheumatism. An examination of the urine showed it to be normal, and no visceral lesions existed as complications. The salicylate method of treating rheumatism was at once instituted, as much as $1\frac{1}{2}$ drachms of salicylate of sodium being given each day. At the end of thirty-six hours the joint symptoms had almost disappeared and the fever was completely dissipated. That night after a chill she became violently delirious, had hallucinations of sight and hearing, with extreme agitation, and could only be restrained by force. The temperature rose several degrees; the urine was abundant and contained considerable quantities of albumin and indican. The tendency was to regard the rise of temperature and the cerebral manifestations as signs of cerebral rheumatism, and the possibility of uræmia was considered. Finally it was decided, however, that the symptoms were due to salicylic intoxication. Salicylate of sodium was therefore stopped and sixty grains of bromide of potassium administered; a hot bath was also given of half an hour's duration. A milk diet was ordered. At the end of two days the patient was much better, and the joint symptoms, which had temporarily become slightly worse, were relieved by the use of antipyrin and sulphur baths. The points which Rendu thinks are noteworthy in this case are the invasion of the symptoms without prodromes, the absence of headache and roaring in the ears, and the presence of acute delirium of maniacal form. Secondly, he thinks that the albuminuria with production of enormous quantities of indican were due to the introduction of the salicylate. Third, he does not think that they were due to uræmia from renal irritation caused by this drug. The antecedents of the patient were not such as to indicate that she would have an idiosyncrasy to the drug, and a final examination of her urine on her recovery failed to indicate any disease of the kidneys. (From report in the Therapeutic Gazette, February 15, 1899.)

SALOPHENE.

M. Creslé (*Gazette hebdomadaire de médecine et de chirurgie*, December 18, 1898), in a thesis before the faculty of Toulouse, considers salophene as now definitely settled in the therapeutic domain. It exerts, he says, an incontestable action upon acute and sub-acute rheumatism, but its effects are less constant than those of salicylate of sodium. In chronic and blennorrhagic rheumatism it has not shown itself superior to other drugs. Salophene possesses a powerful analgetic action which is

exercised even in those cases where this drug can not be looked for to effect a cure. It has given good results in migraine, in various neuralgias, and in sciatica. Salophene employed in a medium dose produces no phenomena of intolerance, nor does it occasion headache, buzzing in the ears, or troubles of vision, but tolerance appears to be rapidly induced. In certain cutaneous affections salophene appears to have some efficacy, but it is necessary to wait for further experience. The medium dose of salophene is sixty grains daily, more or less, according to the gravity of the complaint. (New York Medical Journal, February 4, 1899.)

SCARLET FEVER.

Dr. Killick Millard lays down the following "bathing-out rules" to prevent return cases of scarlet fever:—(1) The bathing-out to be commenced immediately upon receipt of the patient's clothes, and to be performed as quickly as possible, compatible with thoroughness and care. (2) If insufficient clothing is brought, or if the nurse considers it unfit for wear, she must at once inform the matron. (3) The patient's own clothes to be kept carefully separated from the infected ones. (4) Each patient to have a clean bath-sheet. (5) The bathing-out nurse to wear clean apron and sleeves. (6) "Izal" to be added to the water until it becomes distinctly milky. (7) Carbolic soap to be used, and the patient washed all over with it. (8) The head of each child to be rubbed with carbolic oil after the bath. (9) The hair of each adult must, after the usual washing, be dipped in 1 in 1,000 formalin; in the case of women this should be done, and the hair dried before the bath is given. (10) The nose and ears to be syringed out, if this has not already been done in the ward, with 1 in 2,000 formalin. (11) No patient to be handed over to friends until the hair is quite dry. (12) Every patient to be seen by the medical officer on duty after bathing. (13) The nurse to at once report anything about a patient which she may discover, and which is not noted in the discharge register. (14) Every patient to have a hot drink and something to eat before being handed over to his friends. (Medical Press and Circular, November 30, 1898.)

Scarlet Fever.—Cold Baths in.

Knospel (*Klin. Therap. Woch.*, 1899, No. 8) reports 158 cases of scarlet fever which he has treated by cold baths. The high temperature, delirium, and cardiac weakness in the first stages demand active procedures and, as he says, two methods are open—the medicinal and the hydropathic. While the medicinal

is being abandoned, the hydropathic is gaining more and more adherents. The measures Knospel employed consisted of cold sponging, packs, baths and, exceptionally, external douching. Even by cold swathes alone frequently sleep and rest were found. In cases with bronchitis, broncho-pneumonia, and partial coma good results were obtained by pouring over the body water about 20° colder than the bath in which the child was already immersed. Of 30 cases so treated nephritis occurred in five; of the 90 treated without baths 21 cases showed a corresponding renal affection. At a meeting of the Boston Society of Medical Improvement, every gentleman touching on the subject of baths in scarlet fever spoke of this mode of treatment with the greatest favour. Not one untoward instance was mentioned. In scarlet fever the baths appear indicated not only for the same reasons as in typhoid, but also because the desquamation and recovery are hastened. The old idea of driving the rash in has lost its force. (*Boston Medical and Surgical Journal*, May 11, 1899.)

Scarlet Fever.—Relapse in.

By Dr. R. H. Kennan (*The Dublin Journal of Medical Science*, December, 1898.) This note, containing evidence upon the rare occurrence of relapse in scarlatina, has its foundation in observations made by Drs. Caiger and Kennan. Dr. Caiger, after eliminating such cases where any doubt surrounded the diagnosis of the first attack, as well as those of abortive second attacks occurring late in the period of convalescence, found in a large statistical account a true relapse or early second attack in 5 per cent. of all cases admitted to hospital. He further stated that the severity of the second attack was inversely proportioned to that of the first. Dr. Kennan saw three undoubted cases showing relapse, while Dr. MacDowell Cosgrave is quoted as having reported upon two such cases. (Dr. W. F. Hamilton's abstract in the *Montreal Medical Journal*, January, 1899.)

SYPHILIS.—Justus's Test in.

The test depends upon the sensitiveness of the red blood corpuscles in syphilitics to the action of mercury exhibited by inunction, or by subcutaneous or intravenous injection. This sensitiveness, which is said by Justus to be greater in syphilis than in any other disease, is shown by a sudden sharp fall in the percentage of hæmoglobin during the hours immediately following the administration of the drug. Later the hæmoglobin gradually rises to a point above that seen before the injection. Such a sharp fall of 10 to 20 per cent. in the hæmoglobin

following the use of mercury was observed by Justus in over 300 cases of syphilis, and the absence of any such fall in non-syphilitic cases was attested by "very numerous" control experiments. (From Drs. Cabot and Mertins' paper in the Boston Medical and Surgical Journal, April 6, 1899.)

THYROID TREATMENT OF CORPULENCE.

Ebstein, who is well known as an authority on the treatment of obesity, summarises the value of thyroid preparations in this condition as follows (*Deutsche med. Wchnschr.*, Leipzig, Feb. 1, 1899):—(1) Treatment with thyroid gland is unsatisfactory, because the decrease in weight is very inconstant; often it has absolutely no effect. Sometimes it soon ceases to have any action, and may greatly depress the general feeling of well-being. (2) Muscle tissue as well as fat is lost in those cases where its action is well marked. (3) It is unnecessary, as the dietetic cure is fairly satisfactory, and not so dangerous to the general health. (From Dr. Stockman's summary, *Edinburgh Medical Journal*, April, 1899.)

TRICHINOSIS, SPORADIC.

William Osler, in the March number of the *American Journal of the Medical Sciences*, says that symptoms of invasion of this affection are pains in the joints, bones, and muscles. He gives the histories of five cases, and in all of them the patients complained of irregular pains in the muscles and joints and back at the onset of the disease, more particularly of pains in the legs, or of general heaviness in the limbs and aching in the bones. He says that of all the symptoms of invasion, fever is the one which is most apt to lead to error in diagnosis in the sporadic cases. This, with the accompanying phenomena of rapid pulse, headache, stupor, and general symptoms of serious illness, suggest to the physician the diagnosis of typhoid fever. It differs, however, from this affection in that in typhoid fever it is by no means uncommon to have aching of the limbs and back, but it is exceedingly rare to have special complaint of pains in the muscles themselves. Œdema in its most characteristic form is seen in the eyelids and over the eyebrows, and it is of great value as a symptom because of its very early appearance in trichinosis, and because of its extreme rarity or rather complete absence in typhoid fever. (*Medical Age*, March 25, 1899.)

TUBERCLE BACILLI IN MILK AND SOME OTHER FLUIDS.—Thermal Death-Point of.

Smith (*Journal of Experimental Medicine*, vol. iv., No. 2, p. 217) found in a series of experiments that tubercle bacilli when

suspended in distilled water, decinormal salt solution, bouillon, and milk, are destroyed at 60° C. in from fifteen to twenty minutes, and the larger number in from five to ten minutes. When tubercle bacilli are suspended in milk the pellicle that forms during the exposure to 60° C. may contain living bacilli after sixty minutes. (Medical Record, May 13, 1899.)

TYPHOID BACILLUS CAUSING SUBCUTANEOUS ABSCESESSES.

Pratt (*Boston Hospital Medical and Surgical Reports*, 1899) reports two cases of invasion of the subcutaneous tissues by the bacillus typhosus. In one case an abscess formed over the right olecranon one month after typhoid fever. At the operation no connection was found with the joint or periosteum. In a second case of typhoid fever a purplish, indurated swelling formed on the leg a few days before death. It contained a sero-sanguineous fluid, from which the bacillus typhosus was isolated in pure culture. In the literature he found three cases of abscesses in the subcutaneous tissue and six in muscle-tissue. From an analysis of all the cases he draws the following conclusions:—Abscesses in the soft parts due to the bacillus typhosus are usually single. They appear during the latter weeks of fever or early in convalescence. They run an acute course. In this respect they contrast strongly with post-typhoid bone lesions, whose course is characterised by chronicity and a marked tendency to recurrence. They produce few constitutional symptoms. They heal rapidly after incision. (*Journal of American Medical Science*, p. 501, 1899.)

TYPHOID BACILLUS IN SOIL.

Sydney Martin has continued his work on this subject, and reports as follows (*Rep. Med. Off. of Loc. Gov. Board*, 1897-98, p. 308):—(1) That cultivated soils are most favourable to the growth of the typhoid bacillus, and in them it may retain its vitality as long as 456 days, even when the soil had become so dry that it could be finely powdered. (2) All virgin soils, sandy or peaty, moist or dry, are inimical to the growth of the typhoid bacillus, which eventually dies out, both at the surface and at a depth of 3 feet. There is no evidence to show what property it is of these soils that kills the bacillus. (3) In favourable soils in a moist condition the bacillus flourished not only at 37° C., but at much lower temperatures, viz., 3°, 9°, 16°, and 24° C. (4) In soil favourable to the typhoid bacillus the cholera vibrio was found to be alive and vigorous after sixty-eight days, and the diphtheria bacillus and anthrax bacillus were alive and pathogenic after sixty-six days. (Dr. Hewlett's abstract in *Treatment*, February 9, 1899.)

TYPHOID FEVER IN INFANCY.

The serum test was made in fifty cases during the past summer. The babies were all under two years of age, out-patients at the Infants' Hospital. No attempt was made to pick cases of any especial clinical type or severity, but rather to take cases of all types and of various grades of severity. The clinical diagnoses were:—Simple diarrhoea, 2; fermental diarrhoea, 45; ileocolitis, 3. With the exception of one case, only one test was made in each case. In carrying out the test a twenty-hour-old bouillon culture of an actively motile, virulent organism, grown at room temperature, was used. Ten parts of this culture were mixed with one part of fresh blood serum and examined between slide and cover-glass. Only distinct clumping of the organisms was accepted as positive. The limit of time allowed was one hour. In only one case was a positive reaction obtained. The question of a previous attack of typhoid in the mother was investigated in thirty-nine cases. Thirty-three had not had the disease, while six had had it at some time in the past. The number of years since the attack were twenty-four, twenty, fifteen, ten, seven, and four. Among these latter cases was the mother of the child whose blood gave the positive reaction. On the whole, therefore, we are inclined to think that the reaction was due to the mother, and not to the disease. The following conclusions seem to a certain extent justified:—(1) Typhoid fever, as has been commonly believed, is an unusual disease in infancy; (2) it is possible that women whose blood gives a positive Widal reaction, even though it be years after the occurrence of the disease, may in some way transmit this to their infants. (From Drs. Morse and Thayer's paper in the Boston Medical and Surgical Journal, January 12, 1899.)

Typhoid Fever.—Bacteriological Diagnosis of.

Piorkowski (*Berl. klin. Woch.*, February 13, 1899) makes a preliminary communication upon this subject. He had previously pointed out a method of distinguishing between the typhoid and colon bacilli by means of media containing urine. The colon colony has a sharp outline, whereas the typhoid colony sends out from all sides fine processes. As forty-eight hours were required for this appearance to develop, Piorkowski has been searching for a medium on which the growth would be more rapid. Lately he has employed the following:— $\frac{1}{2}$ per cent. peptone and 3.3 per cent. gelatine is made up with normal urine collected during two days. This is heated for an hour, and is then filtered without the aid of heat. Tubes are filled and sterilised at 100° C. for 15 minutes. The sterilisation is repeated for ten minutes on the following day. After twenty

hours' growth at 22° C. the colon colony looks round, yellowish, and finely granular, whereas the typhoid colony presents a thread-like appearance, the threads radiating from a centre. Impression specimens from plates containing both kinds of colonies present a characteristic appearance. Stab cultures of the *B. coli* show a thick growth extending along the line of the stab and also over the surface, whereas the growth of the typhoid bacillus was more translucent and did not spread over the surface. The author says that, in the case of four typhoid stools so examined, the diagnosis could be made in twenty hours at a time when Widal's reaction was not present. (*British Medical Journal Epitome*, April 8, 1899.)

Typhoid Fever.—Pyrexia during Convalescence.

(By M. Potain, *Semaine Médicale*, April 19, 1899.) Among the causes that may induce fever are coprostasis, the return to solid food, "febris carnis," and its aggravated form, resembling chronic enteritis in its symptoms, inflammation of the kidneys, biliary passages, and other organs and suppurations. The slight recurrences of fever which Potain calls "reiterations" are merely after-claps of the primary infection. The complications occurring in convalescence are caused by Eberth's bacillus alone, or by a combination of bacteria, or a secondary infection. There are also cases in which the fever seems to be absolutely without a cause, as in Parson's case of three weeks of typhoid fever with a perfect convalescence until the eighty-fifth day, when an inexplicable idiopathic fever appeared which lasted until the 272nd day. (*Journal of the American Medical Association*, March 13, 1899.)

Typhoid Fever with Hemorrhage, treated with Intravenous Injection of Saline Solution.

C.D., male, aged 46, had about eight ounces dark hemorrhage from the bowel at the beginning of the third week, and the pulse became weaker. He was put on the usual treatment, opium and ergot being given internally. Next day he had two hemorrhages, about ten ounces in all, became much weaker, with cold, clammy skin. It was necessary to give him stimulants—brandy (3 oz.), strychnia, and digitalis—owing to the seriousness of his condition. On the day following he was much worse, sighing, restless, hands, face, and ears livid, hiccoughing, vomiting frequently, increase of the abdominal distension, lying in almost unconscious condition, with eyes half closed. Pulse extremely feeble, at times almost imperceptible, but still slow (76-88), and he had another small hemorrhage, about three ounces. I suggested to Dr. McArthur to transfuse him, as he seemed in a moribund condition, and

none of the stimulant seemed to have more than a temporary effect. This he did at 5 p.m., injecting two pints of normal saline solution into the median cephalic vein, and an improvement in pulse and appearance followed, pulse rate being about 80, but better in volume and tension. The good effect only lasted about two or three hours, when he drifted into his old condition again, and the prognosis became most unfavourable. However, we decided to try the injection again, and at 9.15 p.m. (four hours after the first) one and a half pints were injected. Again, the pulse, respiration, and general appearance improved. The next day there was another hemorrhage, about seven ounces, but after this he became much brighter, his pulse continuing to improve, brandy, strychnia, digitalis, peptonoids being continued for some weeks when necessary. After this, though it was three weeks before the febrile state subsided, his condition was never alarming. A relapse set in on the eighteenth day normal, and ran a ten days' course. After this he slowly convalesced, and is now quite well, although not so strong as formerly. (From Dr. Ramsay's paper in the *Australasian Medical Gazette*, December 20, 1898.)

Typhoid Fever.—Hemorrhage in.

Hemorrhage in typhoid fever is frequent enough to constitute it a symptom, rather than a complication. No doubt one frequently sees cases where a slight hemorrhage appears to be beneficial, convalescence setting in apparently soon after its appearance; still it is always wise to take a serious view of even a trifling hemorrhage, and to place the patient at once under such measures as are suitable. In a few cases, hemorrhage from the bowels appears to be a simple oozing from the blood-vessels. In cases of profound toxic poisoning, the blood breaks down and finds its way out of the vessels without any special lesion of continuity of the vessel walls. Even severe losses of blood may not be attended by fall of temperature, as much as 80 ounces in three days having been lost without affecting the temperature. In dealing with hemorrhage it is important to lessen the amount of nourishment given by the stomach, or wholly stop feeding except by the rectum. The foot of the bed should be elevated, and a Leiter's metallic coil applied to the abdomen. There is no remedy to be compared with opium. It should be given in doses sufficient to cause either slight drowsiness or contraction of the pupils. It is often a difficult point to decide how far it is advisable to push opium in these cases. The reaction following the effect of large doses, given for some days, may be very considerable. In one case it looked as if such a deleterious after-effect of opium were manifest. The practice of giving astringent drugs, like iron, tannic acid, turpentine, &c., is,

fortunately for the patient, becoming less and less frequent. Whether ergotine, hypodermically, has any influence in checking intestinal bleeding, I am unable to say. (From Dr. Stewart's remarks in the Montreal Medical Journal, January, 1899.)

Typhoid Fever.—The Cold Bath Treatment.

There has been a great deal said about the disadvantages, but not enough about the advantages—and perhaps the special advantages. It should be remembered that the treatment by cold bathing is, in the main, an eliminative treatment. It has been shown conclusively that the urine of patients subjected to the bath treatment is a great deal more toxic than other urine; which shows that the kidneys are stimulated chiefly by the action of the nervous system. That accounts for the fact that in any series of cases that have been bathed, we see fewer instances of toxæmia. We may combine it with the internal administration of antiseptics. I quite agree with Dr. Adami that we have not reached the perfection of treatment; but those that compare the two kinds of treatment, the expectant and the bath, will certainly be struck by the lack of delirium in such cases. I remember in the hospital we used to have four or five delirious patients during the night; but this has been practically abolished, and we may see only a little wandering delirium, and that very rarely. In many instances, the patients object to this bath. To those patients who object to the initial cold bath, we begin with a graduated bath; and I practically always do this with females. The first at 90 degrees, lowered to 80; the second at 80 degrees, and lowered to 75 degrees; the third at 75 degrees, and lowered to 70 degrees or 68 degrees. Under these circumstances, I find that, as a rule, patients take the bath very well. It is only the exceptional patient that gets blue and shivers, and then it is a sign to remove him. (From Dr. Lafleur's remarks in the Montreal Medical Journal, February, 1899.)

Typhoid Fever without Intestinal Lesion.

Dr. J. H. Bryant relates an interesting case. The following is taken from his remarks:—An analysis of the 15 cases shows that this form of typhoid fever without intestinal lesions may affect patients at ages varying from $1\frac{3}{4}$ to 60 years; 11 of the cases during life presented the characteristic symptoms and signs of typhoid fever, in 1 case the fever was of a recurrent type and the spleen was considerably enlarged, in 1 case purpura was a prominent symptom, in 1 case dyspnoea and signs of pneumonia were found and a diagnosis of pneumonia was made during life, and in 1 case jaundice and hæmaturia

were noted. Death took place on the sixth, tenth, twelfth, twentieth day up to the sixth or eighth week from the commencement of symptoms. Enlargement of the spleen was noted in 8 of the cases, enlargement of the mesenteric glands in 9, pneumonia and pulmonary congestion in 5, and congestion of the meninges in 1. The bacillus typhi abdominalis was obtained from the spleen in 14 of the cases, from the liver in 4, from the kidneys in 3, from the lungs in 3, from the mesenteric glands in 2, from the heart in 1, from the biliary passages in 1, and from the spinal cord in 1. The above analysis serves to show the possible widespread distribution of the bacillus typhi abdominalis. The fact also that in such a large proportion of these cases the symptoms during life are looked upon as being typical of typhoid fever, indicates that in whatever organ the chief nidus of the growth of the bacillus may be, the resulting toxins will produce the characteristic clinical features of the disease. It is also interesting to note in connection with this last-mentioned point the excessive diarrhoea which occurred in my case, which again shows, as has often been pointed out, that the diarrhoea has no direct relation, and is in no way dependent on the extent or severity of the ulceration which is usually found. (*British Medical Journal*, April 1, 1899.)

TYPHO-MALARIA.—So-called.

As to the clinical picture presented in our cases, no uniformity is found. The typhoid picture, however, was always present, and in nearly all of the cases dominated the scene. The malarial manifestations appeared at different points in the different cases. Repeated paroxysms of chill, fever, and sweating at the onset of the disease appeared in many of the cases, in this respect resembling the picture generally described in "typho-malarial" fever. In other cases these features were absent. In some of the cases febrile paroxysms occurred during the height of the disease and irregularly through its course, though this was the exception. In other cases the malarial paroxysms occurred only in the convalescence from the typhoid. It is interesting to note also that in several cases malarial paroxysms directly preceded or accompanied the onset of the typhoid, disappeared completely from view during its course and again reappeared during convalescence. This would seem to indicate that the typhoid fever is the more masterful disease; but the important fact must not be forgotten in this connection that quinine was freely used against the malarial element whenever it appeared. There appears to be every reason for believing that without the interference of quinine the malarial paroxysms of chill, fever, and sweating would have continued to complicate the picture of the typhoid and would have caused an appearance of a thorough mixture

and fusion of the malarial and typhoidal elements of the disease, as has been claimed by many American writers. The malarial element in our cases seems to have been suppressed from view by the quinine, but in many cases reappeared at one point or another whenever, in the struggle for existence, its power became strong enough to assert itself visibly. (From Dr. J. P. Lyon's paper in the *American Journal of Medical Science*, January, 1899.)

Typho-Malaria.—So-called.

A malarial complication in typhoid fever should be recognised, if present, like any other complication, and it can be recognised positively only by the blood examination. When found it should be treated as Flint so tersely explained. If malaria is suspected, but the microscopical examination can not be made, a therapeutic test may be tried, but the method and limitations of this must be clearly understood. It will not remove the fever if the malarial is associated with typhoid fever, so that when the microscope is not used it is necessary to use the quinine with great care, giving neither too much nor too little, and not keeping up the drug for more than two or three days at a time. In a case resembling typhoid fever, but really malarial, the microscope is essential to good practice. Without it quinine may again be used; but if the temperature does not fall to or near normal, with relief to the other symptoms, it is better to stop the quinine altogether. Only when microscopical evidence of malaria is present should the drug be pushed after the third day. It is necessary to add that while symptoms persist the patient should be treated as though he had typhoid fever. So erroneously is the so-called therapeutic test conceived that I have known of patients taking quinine in doses of 40 grains a day for three weeks, in order to determine the presence of malaria, each fall of one or two degrees of temperature being looked on as proof of a specific effect. I am well aware that some look on massive doses of quinine as useful in typhoid fever, but considerable observation has convinced me of the opposite view. (From Dr. Dock's paper in the *New York Medical Journal*, February 25, 1899.)

TYPHO-PNEUMONIA.

The point I wish to impress in this connection is that these pulmonary symptoms come on early and mask the true cause of the trouble and the real disease. Pathology teaches us that the typhoid bacilli invade the lung instead of the intestine, as they are found in the air-cells in autopsies. This is really equivalent to typhoid fever having the lung as its site. How are these

cases marked clinically? The symptoms are diffuse and not limited to one lung as pneumonia generally is. Again, the râles are of unusual loudness. There is a case in the wards now whom I intended to bring before you, but the patient is too ill. In him the lung symptoms are even more marked than in the one under discussion. The great peculiarity of his case has been the extraordinary loudness of his râles, they being heard when approaching the bed without making a search for them. Louis states that this is a means of recognising that typhoid fever is present in these cases, and that if in doubt this is to be taken as indicating that the fever is present. The case just mentioned is certainly evidence in favour of this view. Further, we have this peculiarity marking these cases. You will find that there is not much change of sputum; it is not rusty, and there is nothing characteristic about its appearance. The tendency in this complication is to congestion with loud râles, and if the lungs are markedly involved, broncho-pneumonia may be induced. Still it is sometimes difficult to distinguish these from ordinary lung cases. Additional points irrespective of those mentioned are: First, the appearance of an eruption; this is not seen in ordinary lung diseases. Second, the aid of modern research enables us to place dependence on the Widal test; this is not absolute by any means, but in conjunction with other phenomena it is of some value. It is important to treat these cases as typhoid fever instead of as lung trouble. Whatever treatment it is intended to adopt must be carried out irrespective of the lung trouble. (From Dr. da Costa's paper in the Medical Age, January 10, 1899.)

TYPHUS FEVER.—The Bacteriology of.

There are a number of disorders that are manifestly infectious, but whose etiology has not yet, for various reasons, been determined. Among these is typhus fever, which no longer occurs with its former frequency, so that the opportunities for a study of its bacteriology are not numerous. Such investigation as has been made on the subject, however, has yielded conflicting results. Thoinot and Calmette have found in the blood of typhus patients organisms resembling in appearance human spermatozoa, but their observations have not been confirmed by those of others. Hlava, as well as Brannan and Cheesman, has described a bacillus in the blood; Lewaschew small motile bodies of varying shape; and Dubief and Bruhl a small, encapsulated, non-motile diplococcus. In a recent epidemic of typhus fever in Edinburgh, Balfour and Porter isolated post-mortem in 7 fatal cases, and during life in all of 15 acute cases, and in 3 of 4 convalescents a diplococcus presenting certain points of resemblance to that described by Dubief and Bruhl,

as well as certain points of difference. The organism was apparently $2\ \mu$ in transverse diameter, unencapsulated and endowed with Brownian movement only. It stained well with carbolfuchsin and gentian violet and by Gram's method. In some instances it tended to occur in chains and in others in clusters, but generally it was found as a separate diplococcus. It grows rapidly in broth and in milk, coagulating the latter in from twenty-four to forty-eight hours. It is easily cultivated on agar, blood-serum, Loeffler's blood-serum, and potato. Colonies appear generally within three days, and liquefaction takes place in from five to eight days. Broth is rendered cloudy by cultures within twenty-four hours, but subsequently clears. There is no gas formation in glucose jelly. Growth and development take place best at a temperature of 37°C . (Medical Record, April 8, 1899.)

TUBERCULOSIS IN THE COLOURED RACE.

J. A. Faison, in a communication to the *Medical Record* of March 11, 1899, says that an experience of twelve years has led him to the following conclusions on this subject:—(1) The antecedent tuberculous diathesis is not so characteristic as in the Caucasian; (2) the susceptible period for the negro is from eighteen to twenty-five years of age; (3) tuberculous lymphadenitis in children and young adults is not increasing in equal ratio with phthisis pulmonalis; (4) the dark members of the race are as liable to tuberculosis as mulattoes; (5) phthisis runs a more rapid course in the negro than in the Caucasian, conditions being similar; (6) hereditary predisposition does not play so important a part with the negro as with whites; (7) scrofula following the law of atavism has not been observed. (Medical Age, April 10, 1899.)

TUBERCULOSIS.—Mortality from.

If we take the three principal forms of tuberculosis, viz., *tabes mesenterica*, tubercular meningitis, and phthisis pulmonalis, we find that in the United Kingdom the average annual deaths for the five years 1892-96 were—*tabes mesenterica* 8,659, tubercular meningitis 8,707, phthisis 59,015, making a total of 76,381, which is equivalent to 10·8 per cent. of the deaths from all causes. In this calculation other forms of tuberculosis are excluded, such as tubercular diseases of glands, joints, bones, scrofulous abscess, &c.; this latter group is not so fatal as the principal forms, but in numberless cases where not fatal the disease maims for life. Taking Ireland separately as more nearly concerning us, for the five years already referred to, we find that the average deaths were, from *tabes mesenterica* 954,

tubercular meningitis 928, phthisis 9,672, making a total of 11,554, and constituting 13·9 per cent. of all the deaths in Ireland. For our own Dublin district the corresponding figures were, tabes mesenterica 229, tubercular meningitis 161, phthisis 1,214, making a total of 1,604, which is equivalent to no less than 17·2 per cent. of all the deaths in Dublin and its suburbs. (From Dr. Grimshaw's paper in the Dublin Journal of Medical Science, March, 1899.)

Tuberculosis.—The Movement Against.

The tendency is towards the idea that, as tuberculosis is infectious, and the first principle of treatment is the fresh air, all cases should at once be drafted into the country, and that they should not be admitted into public institutions in cities. Now, taking the chances of infection first, one may say assuredly that if due precaution be taken with regard to the expectoration, there is no more chance of spreading infection than there is with typhoid fever if the excreta are duly dealt with. Due precautions are taken by sanitary authorities incidental to the urine and fæces, but none with regard to expectoration, which is the real vehicle of infection from tuberculous patients. Further, in reference to open-air treatment, there must of necessity remain a large number of cases which are too far gone for removal. Some accommodation must be provided for these in city hospital wards, which, of course, would be isolated. (From Dr. Buchanan's paper in the Liverpool Medical and Chirurgical Journal, January, 1899.)

TUBERCULOUS MILK.

Of the sixteen dairies examined, the milk of nine caused tuberculosis, *i.e.*, the milk supply of more than half of them was tainted and capable of spreading tuberculosis. It is thus evident that more than half of the sixteen dairies examined, now supplying ten of the colleges, sent out milk containing tubercle bacilli in sufficient quantities to cause tuberculosis in guinea pigs when these animals have been subjected to inoculation; it is therefore not unreasonable to regard these dairies as a source of grave danger. Again, these dairies supply not only colleges but the town of Cambridge as well, here the danger is much more marked as regards:—(a) Hand-fed infants; (b) young children; (c) delicate people; (d) all people suffering from acute diseases. In these cases a milk diet is often considered necessary, in some it is the sole diet. Some of these people cannot drink boiled milk, and therefore it is most important that they should not use milk containing tubercle bacilli. Whilst some authorities consider tuberculosis to arise

solely from inhaled tubercle bacilli, it is probable that a very much larger number of human beings, and certainly of infants, contract that disease by drinking milk containing living tubercle bacilli. (From the late Professor Kauthach and Dr. Sladen's paper in the Medical Press, January 18, 1899.)

WHOOPING-COUGH.—Incubation Period in.

The length of this period was as follows:—In case (1) six days exactly; (2) not more than seven days; (3) eleven or twelve days exactly; (4), (5), (6), (7), (8), (9) fourteen or fifteen days exactly; (10) fifteen or sixteen days exactly; (11) nineteen days at least. It thus appears probable, as is only reasonable from the above considerations, that the period of incubation of this class of disease is not a fixed quantity, but varies widely within certain limits; thus, while we may take fourteen days as the average period of incubation in chicken-pox, we have no great difficulty in accepting Tanner's four days or Trousseau's twenty-five days as outside limits in different directions to which the incubatory period may in certain, not perhaps very unusual, instances attain. (From Dr. William Sykes' paper in the British Medical Journal, January 14, 1899.)

AFFECTIONS OF THE NERVOUS SYSTEM.

ABSCESS, CEREBRAL.—Treatment of.

Joseph Collins, in the April number of the *American Journal of the Medical Sciences*, reviews the literature on this subject, and says that the past year shows a deplorable mortality. The most potent factor in contributing to this frightful mortality is the failure to recognise the existence of abscess of the brain before it has produced either septic complications or profound exhaustion. Surgical technique has apparently very little, if anything, to do with it. The mortality-rate of brain abscess will drop just in proportion to the earliness of recognition and the courage of the physician in directing the surgeon to seek for it, even though there be no exact localising symptoms. Abscess of the brain secondary to middle-ear disease is located in the vast majority of cases either in the temporal lobe or in the cerebellar hemisphere of the same side. When one is reasonably sure of the existence of brain abscess, no hesitation should be had in exploring first one of these regions, and then, if it is not found, the other. Delaying the operation until the appearance of unequivocal localising symptoms, or procrastinating by

operating on the mastoid after symptoms of brain abscess are evident, when one is reasonably assured that abscess exists, is a far greater injustice to the patient than subjecting him to an exploratory trephining. (Medical Age, May 10, 1899.)

BROMALIN.

Karl Rohrmann, of Göttingen (*Merck's Archives*, January, 1899), reports favourable results from the application of bromalin, instead of alkali bromides, in a number of cases of epilepsy. By its means he was enabled to reduce the number of the attacks, which, when bromides were used, could not be done; its activity also even exceeded that of the metalloidal bromides. According to the writer, the toxic symptoms observed with the bromides are in no wise heightened, nor do any new symptoms appear; and no deleterious action on the kidneys and heart need be feared. He believes bromalin is destined to be an important remedy in the treatment of epilepsy, and that although it may not entirely supplant the bromides, it may do so in certain cases. Among these will be the ones in which potassium bromide has been of but slight effect, and in which some other remedy is desirable; also those in which the potassium bromide, though serviceable, causes disagreeable, and even dangerous, toxic symptoms. Herein bromalin will be particularly indicated. It is given in similar doses to those of the bromides, and the results, while equally good, will be unaccompanied by the symptoms, which, when a change is made, generally recede, or at least do not increase. (Medical Age, March 10, 1899.)

DELIRIUM, POST-OPERATIVE.

Picqué (abstracted in the *Centralblatt für Chirurgie*, January 7, 1899) classes under this title all intellectual disturbances following operation; though it must be remembered that many such disturbances are not in the least to be considered as having been caused by operation. Thus certain diseases or conditions from which the patient was before suffering may be responsible; as, for instance, renal insufficiency, or chronic alcoholism. Or delirium may be due to drug intoxication, as is so frequently noticed after the use of iodoform, or it may be due to septic infection. Picqué classes such nerve disturbances as pseudo-deliriums, limiting the term "post-operative psychoses" to those mental disturbances which are apparently dependent upon the operation itself. These psychoses can be caused by every kind of operation, and are not more frequent after gynæcological interference than after other forms of operation. Picqué states that these psychoses are most frequent in children, old men, and hysterical people. There is first a period of excitation

commonly observed from the second to the fifth day; rarely does it develop after a week. It usually disappears as quickly as it came. Exceptionally it passes into a chronic condition, and is accompanied by depression and melancholia, particularly after operations which are more or less mutilating. These chronic cases often give a history of heredity. (*Therapeutic Gazette*, May 15, 1899.)

EPILEPSY, Re-enforcement of the Bromides in Treating.

Dr. F. X. Dercum (*The Medical Fortnightly*, 1899, No. 1) prefers ammonium bromide as the least depressing in its effects. Antipyrin associated with it increases its activity, so that when combined fifteen will often be found as efficacious as thirty or thirty-five grains if used alone, and no unpleasant effects follow. To help guard against the mental depression and eruption, various iodides may be used to advantage. Sulphonal is useful in preventing attacks of epilepsy at night. Five to twelve grains often cause a cessation of nocturnal seizures, and sometimes as a further result those during the day also. Another drug used with great success at times is acetanilid in dose of four to six grains after meals. This is thought to act as a germicide, and thus to prevent fermentation. It may influence the blood by clearing the alimentary canal of substances which if absorbed may vitiate it. It is known that when skatol and indol and other substances of like nature are plentiful in the system, the attacks are more frequent. In this way constipation always favours the course of the disease. Gastro-intestinal atony also contributes its effects. These considerations give reason for frequent bathing, exercise, and out-door life, which are so effectual in treating the disease, the excretion of these effete matters being thus aided. (*American Journal of Medical Sciences*, April, 1899.)

Epilepsy, Senile.

Rosier has studied (*Thèse de Paris*, 1898) the question of epilepsy in late life. Trousseau in his clinical lectures described how an elderly man may suddenly fall in what might be looked upon as an apoplectic seizure, but the symptoms do not last very long, and on coming round he seems stupid and heavy; the following day no unpleasant result is left. Or the attack may be less severe, consisting merely in slight dizziness and dimness of vision. Such cases have long been looked upon as due to cerebral congestion. In point of fact they are epileptic. There is a difference of opinion as to whether heredity plays any part in such cases, but Féré is quoted as believing that in such cases there is a latent hereditary tendency, and should any influence

arise such as prolonged alcoholism, syphilis, or indeed any disease, the result may be an explosion of epilepsy. Even ordinary arterio-sclerosis may induce epileptic seizures when there is such tendency, even though the patient have escaped until late in life. The seizures seem as a rule to be characterised by intellectual failure, and in many instances senile dementia supervenes. (British Medical Journal Epitome, January 14, 1899.)

Epilepsy.—Successful Operation for.

Kocher, of Berne, referred to the modern loss of confidence in these operations, as the formerly accepted percentage of 70 per cent. recoveries has been shown to be erroneous, and Graf and Braun's latest statistics claim only 2 to 4 per cent. cured. Comparing the ultimate results of various methods, it has been found that recoveries are much more frequent when the dura mater has been incised (14 per cent. immediate recoveries without, and 54 per cent. with incision of the dura mater). This fact confirms what he has always claimed, that epilepsy is due to a general or local exaggeration of the intra-cranial pressure. Opening the dura establishes a safety-valve which regulates this pressure. He has witnessed cases in which mere incision cured not only the epilepsy but a spasmodic paresis. In his six cases of permanent recovery (over three years) he finds that the membrane over the trephined spot has remained soft and yielding, while in all the cases of recurrence the defect is closed with a hard, rigid substance. (Report of the German Congress of Surgery in the Journal of the American Medical Association, March 13, 1899.)

EPILEPTICS.—The Classification of.

Dr. W. N. Bullard divides all epileptics into the two classes of (1) idiopathic or true epilepsy, where no definite cause for the affection can be detected; (2) all other forms of epilepsy for which definite causes exist. Class (2) contains a number of definite divisions:—(A) Traumatic, where the epilepsy is directly due to injury. In this division should be included not only the cases (a) in which the brain or its members are torn or otherwise injured, or where the epilepsy is the result of an intracranial hemorrhage, but also (b) those in which there is a continued increased pressure on the brain and meninges, as by depressed bone, and lastly (c) those more obscure cases, in which epilepsy directly follows a blow on the head, although no organic lesion can be detected either during or after life. In some of these latter cases it is probable that the signs of the injury have disappeared; in others it is possible that no visible permanent

signs existed ; in many we have no opportunity for intracranial investigation. (B) The second subdivision of epilepsy is the toxic. It is generally admitted that a form of epilepsy exists which is primarily due to the abuse of alcohol. I must confess that I have never myself seen a case in which, after due consideration, I am now convinced that this cause alone produced epilepsy, but it must be mentioned here, as the vast majority of writers acknowledge its existence. On the other hand, there is no doubt that epileptic convulsions are caused by absinthe, the essential oil being here the prominent factor. In certain other cordials, also, the essential oil causes the same results. Lead may also be a cause of epileptic convulsions, but it is a rare one, and usually as a result of definite lesions. Convulsions from lead indicate a very severe poisoning and suggest a fatal termination. (C) Organic epilepsy is frequently the result of non-traumatic lesions of the intracranial contents. (D) Perhaps the most important form of epilepsy of which we know the cause is the syphilitic. In this we can often find at autopsy some definite lesion which may be looked upon as the cause. The most common is the syphilitic endarteritis with its results ; much more rarely it occurs from gummata ; it is not common from uncomplicated meningitis. On the other hand, there are undoubtedly a certain number of cases of epilepsy due to syphilis in which lesions are not found post mortem. How large this number is we can only surmise. (From Dr. Bullard's paper in the Boston Medical and Surgical Journal, April 6, 1899.)

FRIEDREICH'S ATAXIA.

Dr. C. S. Potts read notes of the following case before the Philadelphia Pediatric Society :—A little girl, until 5 years of age, was as other children. She has one sister, who is healthy. At the age of 5 she began to develop symptoms which have progressively increased to the condition which you see at present. The gait is markedly incoördinate, and this is increased when she shuts her eyes ; marked nystagmus is seen when lateral movements of the eyes are made ; there are also jerky movements of the head, and jerky choreiform movements of the arms (static ataxia), and clumsiness and difficulty in picking up small objects. She also has some tendency to talipes varus, one foot shows this more markedly than the other. There are no sensory symptoms whatever. There are no changes in the eye-ground, and her mental condition is much better than you would expect from the expression of the face. Her speech is defective, being hesitating and slurring. Our records say that she is 15 years of age, although she looks younger. She can read and write. The knee-jerks are absent.

She has a fair amount of strength in her limbs, and could walk well enough were it not for the incoördination. There are no eye symptoms except nystagmus. (*Pediatrics*, May 1, 1899.)

HEADACHE.—Classification of.

Headache may be : (1) A symptom of functional nervous disease : neurasthenia, hysteria, epilepsy, and exophthalmic goitre. (2) A symptom of organic brain disease : meningitis, encephalitis, brain tumour, and brain abscess. (3) An indication of intoxication and infection. The sources of either of these may be endogenous or exogenous ; that is, the intoxication or infection may arise from within the system, such as from diabetes, uræmia, intestinal catarrh, &c., or it may be introduced from without, as by alcohol, nicotine, the metallic poisons, the malarial plasmodia, the acute infectious diseases, &c. (4) Due to disturbances and diseases of the circulatory system, such as accompanies the anæmia of aortic stenosis and regurgitation, pulmonary emphysema and consolidation, general anæmia and its different forms, and the arterial sclerosis. (5) Due to causes that operate indirectly or reflexly to cause continued fatigue and exhaustion, such as from insufficiencies of the ocular muscles, irregularities in the refractive apparatus, irritation of the peripheral olfactory and trigeminal branches, or irritation of any of the great plexuses of nerves. Headaches of this variety are usually called reflex. When properly interpreted, there is no valid reason why this term should not be applied to them. (6) Due to trauma : traumatic headache. Headache may be the sequence of an injury that produces surgical conditions, such as wound of the scalp and bones, and it may follow trauma to the head which does not produce such injury. The explanation of the former variety does not seem a particularly difficult matter, and as for the latter, it is probably a variety of traumatic neurasthenia, occasionally pachymeningitis. (7) A local manifestation of rheumatic involvement of the epicranial and circumcranial tissues. (8) Finally, headache may be the expression of a pain habit, and to this the name habitual headache is given. (*Medical News*, Feb. 4, 1899.)

Headache from Nasal Causes.

Thompson (*Journal of the American Medical Association*, January 14, 1899) calls attention to the frequency with which headache is found to be due to nasal causes. Hypertrophic rhinitis, spurs pressing on the turbinate bones, deflected septum, or new growths, especially fibromata, or ulcers, or polypi, or purulent inflammation of the nasal or adjoining cavities are some of the common causes of nasal headaches. The disease in

the nose which causes the headache is usually complicated by catarrh of the nasopharynx, pharyngitis, laryngitis, and bronchitis. The muco-purulent expectoration, cough, and dry throat in the morning are valuable symptoms. If understood, they direct the physician's attention to the nose as the site of the primary disease. The coated tongue of obstructive disease in the nose is apt to be misleading. Mistake in diagnosis and mortifying failure in treatment can be avoided by remembering that a coated tongue means mouth-breathing more often than it indicates dyspepsia. The diagnosis of headache from nasal causes will be suggested by the history of catarrhal symptoms and long-continued pain. Direct examination of the nose will show evidence of one of the causal diseases already described. If cocainisation of the nasal mucosa gives temporary relief of the headache there is greater probability that the cause is some disease in the nose. Touching the affected area in the nose with a probe often increases the pain if the headache comes from this cause. These tests, though, are not always diagnostic. One must sometimes depend on the results of treatment for a positive diagnosis. (Medical News, April 8, 1899.)

HEAD NODDING IN CHILDREN.

Pure movements of assent, like the nodding of "a mandarin doll," are rare; gyral movements are most frequent, although a combination or alternation of the nodding with gyral movements is common. The movements are singularly smooth, easy, regular, and rhythmical—free from the spasmodic action suggested by some of the names under which they have been described. All movements stop during sleep, in the recumbent posture, and, Mills says, when the eyes are covered. I find little authority for the latter statement, although I believe it to be correct, at least in those cases associated with nystagmus. This nystagmus usually precedes the development of the head-movements, and often persists long after the latter have disappeared, and may recur without their association. The prognosis as regards life is good: no fatal case has been reported. Most cases tend to spontaneous cure in six weeks to three months, but many cases have a tendency to relapse if the child suffers any disturbance of health. Hadden observed one case that remained well for a period of two and a half years, and Gee's first case was found to be well and strong at the age of twelve years. While Hadden observed some slight mental deterioration, he was of the opinion that it would not persist. The treatment that has seemed to expedite recovery is in itself an argument in support of the cortical exhaustion theory: nerve rest by bromides; rest and increased nutrition of the brain by the recumbent posture. If the child is cachectic study the

cause and remove it, be it struma, lues, tuberculosis, or rhachitis. Quite a percentage of the cases seem to have rhachitis, and unless this condition is carefully sought, and treated by diet, phosphorus, and lime, you will not have done your whole duty. Most painstaking and thorough should be your investigation of the digestive system and correction of all its errors. Judicious warnings should be given to parents of precocious children, urging them to forbear the exhibition of the unnatural brightness of the tender little minds, and to protect them from traumatism, as these children seem to be prone to fall, because, as I believe, they are slow to acquire spatial and postural judgment. (From Dr. Charles L. Aldrich's paper in the *American Journal of Medical Sciences*, February, 1899.)

INSANE, OPERATIVE GYNÆCOLOGY IN THE.

Twenty-eight operations, often several on the same patient, were performed on 17 women, as follows: Vaginal hysterectomy, 3; abdominal hysterectomy, 1; cœliotomy for intraligamentous cyst, 1; ventral fixation, 4; curettage and divulsion, 6; trachelorrhaphy, 4; perineorrhaphy, 3; anterior colporrhaphy, 1; posterior colporrhaphy, 1; occlusion of vagina, 1; removal of uterine polypus and submucous fibroids, 1; removal of hæmorrhoids, 2. Subsequent to operation 4 patients were cured of mental disorder (23·52 per cent.), 3 improved mentally (17·64 per cent.), and 10 remained unimproved mentally. There was no mortality from operation. Of the 4 patients who recovered 1 had melancholia, the duration of the mental attack being unknown; 1 had melancholia which had existed nine months; 1 had acute mania of ten weeks' duration, and 1 had had acute mania for one year and seven months. The author says that the insane woman suffering from pelvic disease is entitled to relief from her bodily ailment. If the combined results of asylum treatment and surgical procedures succeed in bringing about a cure of the mental malady, there is great reason for congratulation; but if, in spite of all, the disordered mind still remains disordered, there is satisfaction in the knowledge that the bodily ailment has been relieved. (From Dr. Manton's paper in the *Medical News*, March 11, 1899.)

INSANITIES.—Prognosis and Duration of the Acute.

In a series of cases admitted into the Eastern Michigan Asylum, Dr. Irwin H. Neff found that, out of 327 cases of mania, 190 (or 58·7 per cent.) recovered; and out of 800 cases of melancholia, 282, giving a percentage of 35·2, recovered. The recoveries from attacks of melancholia occur much later than recoveries from mania, and among the latter a chronic or

recurrent condition results more rapidly. Dr. Neff justly calls attention to the fact that in melancholia many cases are removed from care by the patient's friends in an improved mental state, in which recovery results after removal from the asylum; whilst in mania removal before recovery occurs much less frequently, because a maniacal or excitable patient is much less easily cared for and managed away from an asylum. The conclusions arrived at by Dr. Neff with regard to frequency is that acute melancholia is more common than acute mania in the proportion of two to one; that the recovery rate in acute mania is higher than in acute melancholia; that, with regard to causation, heredity is an important factor, but its presence does not preclude recovery, nor necessarily cause a recurrence; and that it shows a higher percentage of 47 as a cause in cases of mania, as compared with 38 in melancholia. The percentage of males is greater in melancholia, while the percentage of females dominates in mania. (Dr. Wood's abstract in *Treatment*, p. 84.)

LUMBAR PUNCTURE IN CHILDREN.

At the meeting of naturalists and physicians held at Düsseldorf last September, a paper was read on this subject by M. Pfaunder, who had performed nearly 200 lumbar punctures in Escherich's clinic. In tubercular meningitis the cerebro-spinal fluid drawn during life contained tubercle bacilli in 90 per cent. of all the cases. After death the bacillus was found in every case which was examined. In epidemic cerebro-spinal meningitis the micro-organisms found were the diplococcus of Weichselbaum, and the meningococcus of Heubner. In many of the atrophic children undergoing treatment in hospital the fluid contained micro-organisms. From a therapeutic point of view, whenever intracerebral pressure was directly threatening to shorten life, lumbar puncture acted effectively as a palliative measure. In many cases it relieved the intense pain in the head, the hyperæsthesia, the delirium, the coma, and the convulsions. In several cases of hydrocephalus a cure was brought about by this means. As an operation it might be regarded as free from risk, if ordinary precautions were employed.—*Rev. mens. d. mal. de l'enf.*, Paris, January, 1899. (*Edinburgh Medical Journal*, April, 1899.)

MENINGITIS, ARTHRITIS IN CEREBRO-SPINAL.

Dr. Osler first relates two cases. There are two points of special interest in these cases; first, the early onset of the arthritis. I confess that in one case we were completely thrown off our guard. I suspected for a day or two rheumatic fever; then as

the symptoms subsided, and as the temperature kept up, we thought possibly it might be an unusual instance of arthritis in early typhoid fever, as gonorrhœal infection could be excluded. The other case illustrates probably the maximum degree of involvement of the joint in cerebro-spinal fever. It shows, too, the rapidity and severity with which the complication may develop. When Dr. Hastings saw this man at his home on the third day of his illness the joints were sore and red and swollen. The second point, of still greater interest, is the light thrown on the nature of the infectious arthritides. The arthritis in cerebro-spinal fever brings up a question, much discussed of late years by neurologists, of the cause of the joint affections in diseases of the central nervous system. All grades—simple congestive synovitis with areas of painful redness resembling erythromelalgia, acute multiple synovitis and arthritis, extensive disorganising suppuration of joints—are found in the acute and chronic forms of spinal cord disease. A very careful bacteriological study should be made of these cases. The joint lesion is usually regarded as trophic in character; and I think the general view has been that in cerebro-spinal fever also the arthritis is a secondary effect of the inflammation of the cerebro-spinal meninges. In this case the separation of the specific organism from the inflamed joints and from the blood demonstrates that the joint complication may be the direct effect of a widespread diplococcus septicæmia. (Boston Medical and Surgical Journal, December 29, 1898.)

MENINGITIS, CEREBRO-SPINAL.—Laminectomy and Drainage in.

Herbert Allingham and H. D. Rolleston report (*The Lancet*, April 1, 1899) a case of cerebro-spinal meningitis thus treated. The patient was a young man, aged 24, under Dr. Rolleston's care, who presented certain symptoms that led to the diagnosis of cerebro-spinal meningitis, though all the typical signs of that disease were not present. His condition grew continuously worse for seven days. There was great rigidity of the neck, knee-jerks were absent, pupils failed to react, increasing drowsiness became manifest, and trophic changes in the skin at certain points set in. Death seemed the only possible issue when Mr. Allingham was consulted and consented to operate. The dura was found bulging after laminectomy in the dorsal region. It was incised to the extent of an inch in the long axis of the cord, and after the evacuation of about three ounces of coagulated lymph and cerebro-spinal fluid a drainage tube was inserted down to the cord, tapping the subdural space. The day after the operation the patient was much better, and he

continued to improve. After about five weeks the drainage-tube was permanently removed, and at the expiration of seven weeks the wound was completely healed. Of course there remains the doubt whether a case like this might not have improved without any surgical intervention. Cerebro-spinal meningitis, when it does not kill early, often produces very serious symptoms for a good many weeks, yet goes on to recovery. In this case the impression produced on the medical attendant by the patient's condition was that death was inevitable. (From leading article in *Medical News*, May 6, 1899.)

MENINGITIS, PARALYSIS FOLLOWING CEREBRO-SPINAL.

In the *Boston Medical and Surgical Journal* of February 16, Dr. W. N. Bullard calls attention to certain forms of paralysis occurring during cerebro-spinal meningitis and persisting after the acute stage of the disease. They differ from the ordinary forms and do not entirely correspond to other forms which are described. All the cases occurred in children. In certain stages they resembled cases of anterior poliomyelitis, but they differed in the following respects. Pain on passive movements persisted to a degree rarely if ever found in anterior poliomyelitis. Such pain and tenderness may exist during the acute stage of the latter for two or three days, but if it lasts longer than a week the diagnosis is to be questioned. On the other hand, not uncommonly in cerebro-spinal meningitis great pain on passive movement, especially of the ankles, may exist two or more months after the acute stage. Tenderness of the muscles also persists longer. There is always a tendency to spastic contraction. The knee-jerk on the whole is less affected, but it may be abolished. In addition to these signs the history of the attack is a guide. (The *Lancet*, March 11, 1899.)

MENINGITIS, SIMPLE POSTERIOR.

The diplococcus of posterior basic meningitis sometimes appears to be in the cells of the exudation, but more often it is outside the cells. The two cocci of which it consists have their opposed surfaces usually more or less flattened, and often closely resemble gonococci, especially when the intra-cellular appearance is seen. The diplococci are often in pairs, side by side, so that an almost sarcina-like appearance may be produced. Growth is rapid on agar-agar or glycerine agar, and reaches its maximum after about thirty-six hours. There is no growth at the ordinary room temperature, nor on gelatine, and growth on blood serum is scanty. It grows well in milk or broth. It is easily stained by methylene blue, but does not stain by Gram's

method. An important feature is its long vitality ; it often lives thirty days, or even longer, on agar-agar or glycerine agar, and this constitutes the most striking difference between this micro-organism and the diplococcus intracellularis described by Weichselbaum. Inoculations were made into mice, rabbits, and guinea pigs, and it was found that subcutaneous inoculations did not prove fatal in any case ; intraperitoneal injection was sometimes fatal, sometimes not. This micro-organism differs widely from the pneumococcus. The diplococcus of posterior basic meningitis is smaller and is never lanceolate. On the whole, it seems most reasonable to regard the diplococcus of posterior basic meningitis as a modification, by a process of natural variation of the diplococcus intracellularis, and this modification of characteristics may possibly account in some degree for the clinical differences between the simple posterior basic meningitis of infants and the epidemic cerebro-spinal meningitis of which the diplococcus intracellularis is probably the cause. From the pathological point of view, the presence of this micro-organism if it be, as seems almost certain, the specific micro-organism of this disease, is of considerable importance. I have already pointed out that in the early stage the disease may be confused by the pathologist with other forms of meningitis. One would probably be right in saying that whenever an exudation of lymph is limited, or almost limited to the base of the brain and to the spinal cord, and there is no visceral lesion or obvious focus of infection elsewhere, the condition is almost certainly not due to the pneumococcus or to any of the ordinary pyogenic organisms, but it is due to the specific disease, posterior basic meningitis, and can be differentiated bacteriologically in the earlier stage of the disease by the presence of the micro-organism which I have described. (From Dr. Still's paper in *Pediatrics*, November 15, 1898.)

MUSCULAR ATROPHY, PROGRESSIVE.—Cure of.

An interesting case is recorded by Dr. A. H. P. Leuf, of Philadelphia, in the *Pennsylvania Medical Journal* for February. It is that of a typesetter, aged 24 years, who was first seen on July 12, 1893, and found to be suffering from the symptoms of progressive muscular atrophy. The case was also diagnosticated as one of progressive muscular atrophy at the department of nervous diseases of Jefferson Medical College. The chief value of the report is the careful record of the electrical reactions tending to place the accuracy of the diagnosis beyond doubt—a matter of great importance—since the patient was on February 6, 1899, nearly six years later, apparently completely cured. The author says that the patient's symptoms in no way indicated the diseases with which progressive muscular atrophy might be

confounded—namely, chronic myelitis of the anterior horns, peripheral neuritis, syringomyelitis, atrophic joint affections, amyotrophic lateral sclerosis, and muscular pseudo-hypertrophy. The treatment consisted of the constant current administered three times weekly for five minutes to each hand—the strength, in the absence of a milliampèremeter, being stated as twenty cells of a liquid chloride-of-silver battery. At first strychnine sulphate, one-thirtieth of a grain, with arsenic one one-hundred-and-twentieth of a grain, and gentian, was administered three times daily. This was discontinued on August 27, and reliance placed solely on galvanism, reduced to fifteen cells, and massage—continued up to November, 1894. Cures in this disease are so rare as to be well deserving of special record. (New York Medical Journal, March 11, 1899.)

NEURITIS GRAVIDARUM AND NEURITIS PUERPERALIS.

Dr. Carl Marhold (*Deutsche Medizinal-Zeitung*, January 19, 1899) says neuritis gravidarum is a rare disease. Clinically, it is characterised by the fact that no particular nerve course is preferred, and that the purely motor form seems to be the rule. The disease begins for the most part during the early months of pregnancy, and disappears with the birth of the child or immediately thereafter. The mildest form of neuritis gravidarum is the paræsthesia which attacks most frequently the fingers, hands, and toes. Neuritis puerperalis may be a continuation of a neuritis which began during pregnancy, or it may arise from puerperal infection; furthermore, the confinement itself may be the etiological factor. Among the latter, pressure of the child's head upon the sciatica, application of the forceps, version, extraction, &c., enter into question. The most frequent paralysis due to forceps delivery is that of the peroneal nerve. All these traumatic neuritides are limited to the lower extremities. Finally other forms of neuritis—partly local, partly general—for which no satisfactory explanation can be given, occur during the puerperium; they give mostly a bad prognosis. Therapy is practically the same as in other forms of neuritis. The electrical current must be used with caution during pregnancy. Only the application of the faradic current to the finger tips is permissible. In some instances the induction of premature labour may result. In neuritis puerperalis electrical treatment is advisable. (From abstract in Medical Record, March 4, 1899.)

NEURITIS, MULTIPLE, FROM MERCURIAL POISONING.

Dr. John K. Mitchell presented, before the Philadelphia Neurological Society, a man of middle life, not addicted to drink or

excessive use of tobacco, and without a history which would lead one to believe that the condition originated in any other manner than from the following cause :—In March, 1896, being afflicted with vermin, he applied to the body two ounces of mercurial ointment, followed two days later by a similar amount. A few days afterward violent abdominal pain ensued, accompanied by a watery diarrhoea, but with no symptoms of salivation. At the end of five weeks from the onset of these symptoms he was examined, and it was found that there was considerable tenderness along the nerve trunks of the forearm, accompanied by atrophy. There was complete loss of common sensation. The hands were contracted ; both wrist and ankle drop were present. The skin of the soles of the feet and the palms of the hands was very dry. Several months after the poisoning occurred a peculiar bluish area developed in the region of the forehead, and has persisted until this time. This blue area is almost in the centre of the forehead, somewhat oval in outline, and probably two to three inches in diameter. The treatment in the case consisted in confinement to bed for several weeks, with subsequent application of the galvanic current and massage. The reflexes have entirely recovered, and there is no atrophy. (Journal of the American Medical Association, May 6, 1899.)

PARALYSIS AGITANS.

Krafft-Ebing (*Wien. klin. Wchnschr.*, 1899, No. 4), referring to the influence of local conditions in the causation of paralysis agitans, and to its invariable commencement in the upper limbs, usually in the right, provided no local injury has occurred causing the first symptoms to appear in the legs, notes that in eighty-eight cases, not traumatic in origin, the right arm was first affected in fifty. Unfortunately, the question of right or left-handedness was not inquired into. The onset of paralysis agitans is first displayed by the part of the body which has been made most use of, especially for the more complex and delicate operations, this relation between the different parts of the body bearing no relation to the amount of stress imposed upon the same parts in individuals, comparing one with another. Paralysis agitans often follows weakening illnesses, continued mental or physical strain, prolonged emotional disturbances, the disposing cause for its first appearance lying in overstrain of some weaker nerve area, already overworked ; or in its actual injury, past or at the time, the less resistant nerves supplying the area yielding to the irritation rising from the injured or faulty spot. Krafft-Ebing sums up, by the expression of his opinion that paralysis agitans may have a physical origin, and, like trade neuroses, writer's cramp, &c., follow local over-exertion. (*Edinburgh Medical Journal*, March, 1899.)

PARALYSIS, FACIAL, IN EAR DISEASE.

Dr. F. Monnier (*La France Médicale* of February 10, 1899) says that facial paralysis of auricular origin is much more common than is generally believed. In some cases there is acute otitis of the middle ear without perforation of the tympanum, and there is a collection in the middle ear which presses upon the facial nerve in the Fallopiian canal. In such cases the periauricular pains which accompany the paralysis are supposed to be due to the paralysis itself, as, in the absence of a discharge from the ear, the possibility of otitis is apt to be forgotten. The only useful treatment is to make a large opening in the drum of the ear, and so give an issue to the serum or pus which is pent up. A small, spontaneous perforation of the membrana tympani is sometimes inefficient to assure the discharge of the collection which compresses the facial, and it is then necessary to make a large opening, so as to allow the exit of the pus. Besides acute otitis, chronic suppurative otitis with caries of bone is often the cause of facial paralysis. It is certain that in complex cases, where before laying open the mastoid process the extent of caries is unknown, one should be reserved as to the restoration of the facial nerve to the normal condition after the operation, but the patient should be told that an operation is the only chance of his recovering the function of the nerve if it is not completely destroyed. The author relates two cases of facial paralysis, one caused by acute otitis, the other by a chronic suppuration of the ear, with large destruction of bone, and the presence of a large mass of material compressing the facial nerve, which were both cured by operation. (From abstract in *Treatment*, p. 81.)

PSEUDO-PARALYSIS, SYPHILITIC.

Moncorvo (*Ann. de Dermatologie*, December, 1898) relates seventeen observations of hereditary syphilis causing pseudo-paralysis of one or more members in children under three months (Parrot's disease). In fourteen out of the seventeen there were other manifestations of hereditary syphilis. The paralysis is due to the lack of continuity in the bone levers owing to the separation of the intermediate cartilage consecutive in turn to the dystrophy of the spongy tissue of the extremity of the diaphysis. Edema is frequently noted at this point, and a crepitation like that of a fracture. The point is very painful to pressure. He mentions that the arm or leg lifted up drops like the tongue of a bell when released. The muscles are not affected. All his cases were submitted to a vigorous specific treatment, and rapidly recovered, although Parrot asserted that every case of this affection terminated fatally. (*Journal of the American Medical Association*, February 25, 1899.)

SCIATICA.—Treatment of.

Bucelli (*Gaz. heb. de méd. et de chir.*, February 12, 1899) applied the method of Negro (cutaneous digital compression) in 54 cases of sciatica, with good results. In all the patients who were cured, the sciatica was of recent date, nine to forty-seven days' duration, and no marked neuritis was present. Amelioration usually appeared at the end of the first treatment, and increased progressively. In general it may be said that the treatment by compression had a better effect in the cases in which the pain was located at definite points, and in which there were no trophic disturbances. Another method of treatment, that advised by Bonuzzi, was applied in 32 cases with the result of a complete cure 17 times and improvement 10 times. The patient was stretched upon his back on a horizontal plane. The trunk was held firmly by an assistant, and the chief took hold of the fully extended leg, and flexed it as far as possible on the body, the knee being held straight meanwhile. This was done slowly and thoroughly. This method of treatment was most successful in cases of neuralgia pure and simple, without complication of neuritis. (*Medical News*, March 18, 1899.)

SENSATION IN NERVOUS DISEASE.

Dr. Williamson draws attention to the following:—(1) In a cerebral case, before concluding that sensation is unaffected, it is important not to omit to test the patient by covering his eyes and placing objects in his hands, in order to ascertain if he can tell what they are, since a patient may be unable to recognise objects in this way when other forms of sensation are unaffected or only very slightly affected. (2) In a spinal case, before concluding that sensation is unaffected, it is important to test for thermo-anæsthesia, and especially to note the sensation produced by cold objects, since this form of anæsthesia may be present when other forms of sensation are normal. (3) In cases of suspected disease of the peripheral nerves, before concluding that sensation is unaffected, it is important to test for muscular hyperæsthesia and for the combination of tactile anæsthesia with hyperalgesia, or of analgesia with hyperæsthesia. (4) In cases of hemi-anæsthesia, the sudden termination of the anæsthesia at one part of a limb (as, for example, at the ankle) or at one part of the trunk is not to be regarded as evidence of hysteria. (*Medical Chronicle*, February, 1899).

SUSPENSION FOLLOWED BY TRACHEOCELE.

(Sabrazes and Cabannes, *Revue Hebd. de Laryngologie*, &c., November, 1898.) During the twentieth suspension for tabes, a patient 65 years old, observed on the right side of his neck

a tumour which became swollen with every effort. It gradually increased in volume. The tumour was punctured and showed that it was filled with air. It was packed with gauze. A laryngo-tracheal examination could not be obtained in order to determine the point of communication with the trachea. The patient was found to be tuberculous. A microscopic examination showed bacilli in the sputum. The authors believe that this is the first case on record of a tracheocele as an accident during suspension. (Laryngoscope, February, 1899.)

SYPHILIS, SPINAL.

Dr. Williamson thus summarises the pathological changes in a case:—Endarteritis and hyaline degeneration of the arteries of the spinal cord and meninges; slight meningitis; gummatous infiltration of the right antero-lateral columns in the upper dorsal region; sclerosis of the periphery of the cord in the lateral columns in the whole of the dorsal region; sclerosis in the posterior median columns in the upper dorsal region; irregular sclerotic patches, with one patch of cell infiltration (gummatous) in the lowest dorsal region; descending sclerosis in the lumbar crossed pyramidal tracts; ascending sclerosis in the cervical posterior median columns. (British Medical Journal, December 31, 1898.)

TABES.—Stomach Contents in the Gastric Crises of.

Dr. C. G. Douglas describes a case, and concludes (1) that during the crises the stomach secreted a large quantity of digestive fluid, inferior in but slight degree to that poured out during health; (2) that there was no indication that this secretion was associated either with hyperacidity or hyperchlorhydria; and (3) that apart from the presence of blood there was nothing in the fluid indicative of a true lesion of the stomach. It has sometimes been suggested in cases like this, where there was abundant vomiting of blood, that we might be dealing with an ulcer of the stomach—an ulcer of the same type and significance as the perforating ulcer of the foot. But it seems to me that, in this case at least, such a hypothesis is untenable and in other reported cases it appears equally wanting in proof. It could hardly be expected that an ulcer which bled freely every two or three weeks would not leave some trace of its presence in the shape of disordered digestion, pain, or other symptom between the attacks. But it has been pointed out that this patient enjoyed excellent gastric health between the crises, exhibiting no trace of stomach lesion on careful physical examination, and digesting so rapidly and perfectly that it was not possible to find any trace of a test dinner two and a half hours after its ingestion.

It is quite possible that in such cases the source of the bleeding lies in engorged or varicose veins around the cardiac end of the œsophagus. (The Lancet, April 15, 1899.)

Tabes.—The Syphilitic Etiology of.

The whole question presents itself somewhat thus:—Given a normal nervous system in a healthy individual without hereditary taint. In such an individual a progressive degenerative process may be started up:—(1) By direct injury (traumatism), including such factors as cold, damp, &c.; (2) by overwork of the nervous elements (exhaustion); and (3) by certain blood states (toxæmia), including syphilitic and other forms of infection, such as alcoholism, ergotism, &c. Of the toxæmic and, in fact, of all the three sets of causes enumerated, the syphilitic is without doubt the most common; because probably under these circumstances the highest degree of blood-poisoning, acting for a long period of time, is brought in relation with the sensory, the most delicate and highly organised part of the nervous apparatus. In other words, the muscular sense being the last acquisition in the evolution of the sensory functions of the race, and therefore the first that would be liable to succumb to any unusual strain, the power of resistance is probably less in the sensory neurons than in the other neurons, to the prolonged action of the syphilitic virus. On the other hand, there is probably a higher degree of virulence in the syphilitic virus toward the nervous elements than there is in most of the other varieties of toxæmia. That some syphilitics do not acquire tabes is explained on the ground that either the virus in their case is not sufficiently active, or, if it is sufficiently active, the inherited vitality of the nervous elements is so vigorous as to be able to resist the action of the syphilitic poison.—Dr. Harrison Mettler, Alienist and Neurologist. (Medical Record, March 11, 1899.)

TABES WITH HEPATIC CRISES.

In the *Journal of Nervous and Mental Disease*, February, 1899, Dr. W. Krauss, of Buffalo, records a case of special interest in which the patient suffered from characteristic attacks of hepatic crises—a condition, it would appear, hitherto unrecorded—the importance of which lies in the fact that this “syndrome” might have been easily mistaken for a separate and independent ailment of the liver were it not that the associated symptoms served to indicate its tabetic origin. A woman, aged 36 years, suffered from excruciating pains over the right hypochondrium, accompanied by a pronounced jaundiced tinge of the skin and mucous membranes; these attacks recurred every four or five

weeks, and then slowly passed away, leaving her weak and exhausted in bed for several days. The pains were deep-seated, very intense, neuralgic in character, and continuous. To procure relief and to obtain sleep large doses of morphia had to be subcutaneously injected. The jaundice would usually last from four to six days. There was no accompanying gastric disturbance; the bowels were on these occasions regular and the stools were clay-coloured. The urine showed the presence of bile pigment. The hepatic area during a crisis was acutely tender and sensitive to touch—to such an extent that even the pressure of her clothing was intolerable; when the attack was over this tenderness disappeared. She gradually lost strength and wasted perceptibly, the hepatic attacks became more and more intense, and she finally died from wasting and exhaustion. The necropsy revealed a normal condition of the heart, lungs, and viscera generally, excepting the liver. This organ was much congested, and of the typical mottled or “nutmeg” appearance. The gall-bladder was normal and free from gall-stones. No lesion was found in the abdomen or thorax which could explain the “nutmeg” condition of the liver, and nothing to which could be attributed the paroxysmal and severe crises of hepatic pain and jaundice which Dr. Krauss accordingly ascribes to the morbid process within the spinal cord affecting the nerves supplying the liver and gall-bladder. (From abstract in *The Lancet*, April 1, 1899.)

Tabes.—Treatment of.

Dr. Allan Starr said it was possible to speak of two types of tabes, a spinal type and an optic type. Of 300 cases, but 30 were of the optic type. The two types are distinct in onset and course, though both may later present manifestations of the other. The spinal type may be acute and rapid in its course, or it may be chronic, and often remain stationary for some years. Of the optic type, blindness is naturally the earliest and most prominent manifestation. The treatment of the disease differs somewhat according to the type, but the first essential is the general nutrition of the patient. The general nutrition and strength of the patient must be built up by a generous amount of easily digested food, moderate stimulation, exercise short of fatigue, baths and massage. By thus improving the general health of the individual the nutrition of each neuron is enhanced and the degenerative process counteracted. Antisyphilitic treatment should be postponed until the general condition of the patient is improved, when it may frequently be employed with great utility. Fraenkel's movements are also of value if systematically carried out. Of

medicines, cod-liver oil, glycero-phosphates, arsenic and tonics are of greatest benefit. (Boston Medical and Surgical Journal, March 18, 1899.)

TETANUS.—Antitoxic Serum Injected into the Sub-arachnoid Space.

The interest felt in the treatment of grave cases of tetanus by the direct application of the antitoxin to the central nervous system is further exemplified in a communication recently made to one of the French medical societies by M. Martin, a hospital *interne* (*Lyon médical*, November 20). A lad, aged 18 years, entered the hospital in Jaboulay's service, a week after having wounded his foot by stepping on a nail. On the day before his admission he had experienced difficulty in opening his jaws and in chewing. At the time of his admission there were generalised tetanic contractions, and he could scarcely speak. The cicatrix left by the wound was excised at once. Then lumbar puncture was practised with a large trocar. About ten cubic centimetres of absolutely clear liquid escaped, and a like amount of antitetanus serum was injected. The usual treatment with chloral and morphine was begun at the same time. That afternoon the lad died without having shown any amelioration. The reporter stated, however, that, notwithstanding the failure of the lumbar-puncture treatment in this case and in two others, one of his own and one of Brissaud's, M. Jaboulay would resort to it again, but immediately after the infection. (New York Medical Journal, January 7, 1899.)

Tetanus.—Intracerebral Injections of Antitoxin in.

Dr. W. F. Gibb cites a case of acute tetanus appearing seventeen days after the accident was reported, treated by intracerebral injections of antitoxin, with a good recovery in about five weeks. The treatment of tetanus, he remarks, is based on the following principles:—(1) Maintenance of the patient's strength; (2) control of the painful spasms by chloral, as far as possible; (3) restrain the development of the toxin of the blood by hypodermic injections of antitoxin; and (4) prevent the toxin from affecting the nerve-cells in the higher centres by intracerebral injections of antitoxin. In cases where the presence of bacilli is still suspected, local operation may be necessary. In the case recorded it was presumed that they had been removed by the amputation a week before the first symptom of tetanus occurred. (Journal of the American Medical Association, April 29, 1899.)

Tetanus.—Intracerebral Injections of Antitoxin in.

[There have been several cases thus treated during the past few months. Recovery has been noted in some after the injections and in others death occurred. We had ourselves occasion to see one case which terminated fatally. The question of the value of this treatment is still very much *sub judice*.]

Dr. D. Semple (*British Medical Journal*, January 7, 1899) reports a case which recovered. He gives the following details of the operation :—The patient is given an anæsthetic, and the hair shaved off over the fore part of the scalp, and the skin made aseptic. An imaginary line is taken over the head from one auditory meatus to the other. Another line is taken from the base of the nose to cross the first line at right angles on the top of the head, and a third line from the outer angle of the orbit to where the first two lines cross each other. The centre of the last line is the seat of operation, and is in front of the motor areas of the brain. Having selected this site, an incision of about $\frac{1}{2}$ or $\frac{3}{4}$ inch in length is made down to the bone. A small hole is now drilled through the bone with an Archimedean drill having a movable collar, so as to regulate the depth to which it penetrates. The hole in the bone need only be a little larger than the needle of the syringe which is to be inserted through it. The syringe has a screw piston and the needle is attached by about three inches of rubber tubing. The needle is about two inches in length, and has a rounded point. It is inserted through the hole drilled in the bone, straight into the brain substance as deep as it will go, and an assistant holds it perfectly steady while the operator very slowly screws down the piston, so as to allow the antitoxin to soak into the substance of the brain drop by drop, to avoid breaking up any brain tissue. It should take at least ten minutes to inject $2\frac{1}{2}$ c.cm. When this amount has been injected the needle is withdrawn, and the edges of the scalp wound drawn together by two or three stitches, and the wound sealed up with collodion and cotton wool. The same operation is now repeated on the other side. The object of using a round-pointed needle is to avoid puncturing a vessel. A sharp-pointed needle might possibly transfix an artery and produce hemorrhage, whereas a round-pointed one would glide off a vessel and go past it. The antitoxin used is double the strength of ordinary antitoxin, and although only 5 c.cm. are given ($2\frac{1}{2}$ c.cm. in each side), it represents the amount of antitoxin present in 10 c.cm. of the original serum. In addition to the antitoxin given intracerebrally, the patient receives 20 c.cm. daily for two, three, or four days, according to circumstances. The antitoxin given intracerebrally immunises the higher nerve centres before the toxin has been fixed there. The antitoxin

given hypodermically renders the blood antitoxic, and the toxin, as it becomes absorbed from the source of supply—wound, bruise, abrasion, or any other source, wherever it may be—is neutralised as soon as it enters the blood stream. The advantage of giving the antitoxin hypodermically in addition to intracerebrally is evident when we reflect that the tetanus bacilli may still be cultivating themselves, and toxin still being absorbed.

TETANY AND HYSTERICAL PSEUDO-TETANY.

It is not a little remarkable that it must still be said of an affection so sharply characterised as tetany that its very existence, apart from hysteria, is denied, or at least doubted, by men who are known as excellent observers, including so astute a clinician as Gilles de la Tourette. It is very satisfactory, therefore, to find von Krafft-Ebing (*Prager med. Woch.*, April 8) quite outspoken in the declaration that there is no neurotic affection on a firmer diagnostic foundation than tetany. He accounts for the sceptical attitude of many of the French physicians by the fact that tetany is rare in Paris, whereas hysteria is rife in that city, as in all centres of culture. He gives short histories of five cases of pseudo-tetany that he has observed. In not one of them was Erb's sign present, and he insists that that test is a sure mark of distinction between tetany and pseudo-tetany. He adds that in no case of true tetany on record, save Weiss's, cited in von Frankl-Hochwart's monograph, has there been wanting the presence of heightened excitability of the motor nerves, especially the ulnar nerve, under the galvanic current. Since in no other disease of the nervous system, certainly not in hysteria, is this condition found so pronounced as in tetany, he goes on to say, Erb's sign must be held to be the most striking means of distinguishing the real disease from its hysterical counterfeit, although there are various other means that ought generally to serve every purpose. True tetany, von Krafft-Ebing declares, should be distinguished without difficulty from hysteria, the only disease that mimics it. (*New York Medical Journal*, April 29, 1899.)

TUMOUR, CEREBRAL.—Successful Removal of.

Dr. Washbourn and Mr. Arbuthnot Lane showed before the Clinical Society a woman from whom Mr. Lane had removed a tumour growing from the pia mater over the arm area two years ago. The case was recorded in the Clinical Society's *Transactions*, vol. xxx., p. 154. Permanent paralysis of the right arm had followed the operation, but she was otherwise in good health, and there had been no recurrence of the fits from which she previously suffered. (*British Medical Journal*, March 4, 1899.)

TUMOURS, INTRACRANIAL, AND OPTIC NEURITIS.

At a discussion of the Neurological Society of London (*Brain*, Autumn Number, 1898), Gunn, in speaking of the great frequency of optic neuritis in tumour, pointed out that in order of such frequency tumours of the cerebellum come first, then those of the basal ganglia, of the occipital, frontal, and temporo-sphenoidal lobes. He considers that the circumstances which chiefly contribute to its origin and severity are rapid growth, increase of cerebro-spinal fluid, and basal meningitis, these accounting for its particular disposition to occur in cases of cerebellar tumour. He thinks, too, that it is quite possible, though on this subject one cannot be dogmatic, that the unilateral occurrence may sometimes help us to a localising diagnosis, for, so far as he has been able to observe, the farther forward a tumour is, so much the greater is the likelihood that the neuritis will be unilateral. Thus it is more probable—other things being equal—that a right-sided neuritis may be caused by a tumour of the right frontal lobe than by a neoplasm attacking the occipital lobe or *a fortiori* the cerebellum. As a quite different suggestion he indicates that it is also possible that its occurrence may be determined by minor anatomical differences in the orbits and their contents. (*Edinburgh Medical Journal*, June, 1899.)

TUMOURS, SPINAL.—The Operative Treatment of.

This was the subject of papers by Drs. J. J. Putnam and J. Collins Warren, of Boston. This subject had been gone over by many investigators, and especially by Schlesinger, of Vienna. The first case described was one of intradural fibroma with pain in the back and legs; later the patient could not use his left leg without great pain. Gas in the bowels caused great distress. The pain occurred usually at night after the last meal. A tumour was diagnosed, but the patient would not then consent to an operation. He could not stand alone. Control of the bladder was lost. An operation was performed, and the spines from the four lower lumbar vertebræ and the lamina of the fourth lumbar vertebra were removed. The tumour was reached and removed easily, with but little hemorrhage. The patient was now slowly gaining, had every movement possible, and appeared rather strong. The knee jerk, which was fairly exaggerated, was now normal. Other cases were reported in the papers, and twenty patients, it was stated, had so far been operated on. When to and when not to operate was a question which must be decided by the general symptoms. (*Medical Record*, May 13, 1899.)

TYPHOID, MENINGITIS, AND MENINGISM.

Maragliano (*Gazz. degli. Osped. e dell. Clin.*, April 16, 1899), discussing the occurrence of meningiform symptoms in typhoid and other diseases, points out that the survival of a patient who has presented meningeal symptoms does not exclude the possibility of anatomical lesion, for several cases which macroscopically have exhibited no lesion have, microscopically examined, shown peri-vascular changes, the initial manifestations of inflammation. Lumbar puncture is of value in excluding meningism (that is, what has been called pseudo-meningitis, such as occurs in relation to teething or other peripheral excitant), but cannot prove it. If the puncture shows an increase of pressure this is evidence of something more than mere meningism. Of course, bacteriological examination of the cerebro-spinal fluid is important, but tuberculous meningitis may exist without the tubercle bacillus being found in the fluid. When true meningitic symptoms occur in the course of typhoid it is nearly always fatal (eight out of ten of the author's cases). Of the eight fatal cases none showed purulent meningitis, whilst the one which manifested this did not die. For those cases of typhoid which show meningeal symptoms without any evidence of meningitis, as revealed by increased pressure or other changes in the rachidian fluid, the author prefers the old term "cerebral typhoid." (*British Medical Journal Epitome*, May 29, 1899.)

AFFECTIONS OF THE CIRCULATORY SYSTEM.**AMYL NITRITE.**

Winkler (*Centrabl. f. Inn. Med.*, December 17, 1898) learned from experiments that the inspiration of amyl nitrite in many instances is followed by a lowering of the blood pressure in the arteries, due to their dilatation, and without any insufficiency of the left ventricle. Under such circumstances the effect of the drug upon the circulation may be favourable by reducing the work of the heart. Unfortunately this stage of its action is usually of short duration, and is soon followed by an increase of pressure in the left auricle, showing insufficiency of the left ventricle. This condition soon results in swelling and stiffness of the lungs and œdema. From these results Winkler draws the conclusion that we must look upon amyl nitrite not merely as an agent for dilating the blood-vessels, but as one which if given in large amounts acts energetically upon the heart, and often in an unfavourable way. Hence the uncertain action of

the remedy in angina pectoris. In the beginning of pneumonia the drug must be employed with the greatest caution. (Medical News, March 4, 1899.)

ANEURYSM.—Calcic Chloride in.

Dr. Thompson mentioned the case of a patient who was admitted into Jervis Street Hospital some years ago suffering from aneurysm of the arch of the aorta. She was put on large doses of chloride of calcium (20 grs. three times a day), due care also being taken to secure absolute rest. After remaining in hospital for about six weeks she left, the aneurysm having then diminished considerably in size. She returned twelve months afterwards with the aneurysm back again to its original size, and was once more treated successfully with chloride of calcium. She then left once more, and died on her return this year. On post-mortem examination two sets of fibrine deposits were found in the aneurysm, the first evidently corresponding to the first time she was in hospital, and the second to her subsequent sojourn in hospital. (Medical Press and Circular, January 18, 1899.)

Aneurysm in Early Life.

Dr. Berry records (*British Medical Journal*, December 10) a case of aneurysm of the aorta in a boy of fifteen. He was stooping for the ball at cricket when he fell down unconscious, and expired on his way to the Charing Cross Hospital. At the autopsy Dr. Hunter found that the ascending aorta for the first inch of its length was closely adherent to the pericardium, and just below the line of reflection was a transverse tear in the aorta, five eighths of an inch in length; below this was a large aneurysm of the aorta. The aneurysm was fusiform in shape, four inches in vertical and three inches in transverse measurement. There were a few small fatty patches in the wall of the sac, and at the point of rupture, and one inch around there was obvious thinning of the tunica media. The aortic valves were slightly thickened, but competent. The right and left ventricles were normal. In the descending aorta there were a few small patches of atheroma. There were no signs of syphilis, congenital or acquired; nor was there any history pointing to severe strain, the boy's most violent exercise being the use of dumb-bells. No history of rheumatism could be obtained. (New York Medical Journal, December 24, 1898.)

Aneurysm, Recovery from Innominate.

Dr. Craig read notes of a case of innominate aneurysm in which recovery had taken place after prolonged treatment by rest,

a limited dietary, and large doses of iodide of potassium. The patient, aged 65, had no previous history of syphilis. The immediate cause of the aneurysm was attributed to straining efforts in endeavouring to secure an evacuation of the bowels on April 11, 1897. Ten days later there were present unequivocal signs and symptoms of the aneurysm, which were attested by Sir William Stokes, Sir C. J. Nixon, and Mr. Wheeler. The patient was kept in bed in the recumbent position for three months, during which period the diet was limited chiefly to milk, gruel, and fruit, ice was regularly applied to the tumour, a daily evacuation from the bowels was secured, and iodide of potassium (in doses amounting to a drachm daily) was administered, with occasional intermissions. The tumour became smaller, the pain and throbbing lessened, but the heart's action was variable, irregular, and intermittent. The second period of three months he spent abroad, and here the treatment was persisted in, but, instead of remaining in bed, he spent his days in the garden of the hotel reclining on an American rocking-chair, to and from which he was carried night and morning. Here his symptoms entirely disappeared. At the commencement of the present year he began to walk about, and subsequently indulged in plenty of walking exercise and in a more liberal diet. When he was carefully examined—eighteen months after the onset—there was no trace of the aneurysm to be found, except a slight prominence and diminished resonance where the tumour had existed. He still continued to take iodide of potassium, but in lesser doses and with longer intervals of abstinence. (*Medical Press and Circular*, January 18, 1899.)

ATHLETICS AND THE HEART.

Dr. Alfred Stengel, of Philadelphia, stated that athletics habitually cause some dilatation of the cardiac chambers at the time of indulgence in a trying sport. The degree of dilatation is more marked in young and inexperienced athletes than in those well trained. Occasionally, acute dilatation, sufficient to cause marked symptoms, is observed. Under these circumstances a trained athlete may recover compensation within a few days. The effect of continued indulgence in severe sports is the development of some cardiac hypertrophy, and athletes who have thus enlarged their hearts frequently suffer symptoms of over-compensation, at least during some years after they have ceased to indulge in athletic exercises. He advocated that all young men should be carefully examined before they be permitted to indulge in such sports, and that while in training they be under strict medical supervision. (*Boston Medical and Surgical Journal*, May 11, 1899.)

BRADYCARDIA IN INFLUENZA.

In the three cases recorded, as well as in several others in which there was marked bradycardia, all the organs were healthy and there was not the least sign of heart disease. In my experience, the pulsus rarus is most pronounced in those cases where there is influenza of the gastro-intestinal type. Of course bradycardia is frequently observed in states of exhaustion, particularly during convalescence from acute fevers. But in influenza bradycardia is not only met with during convalescence from a severe attack, but as an essential sign on the height of the paroxysm. It is usually accompanied by a subnormal temperature, though there is no necessary relation between the range of temperature and the pulse-rate. But in the absence of all other signs there is very marked prostration inversely proportionate to the frequency of the heart-beats. I think that both bradycardia and constitutional exhaustion are the result of the same cause—the poisoning of the system with the products of influenza or of the influenza germs, for I have not the least doubt that the pulsus rarus is due to the immediate action on the pneumo-gastric nerve or on the ganglia of the heart by the influenza toxins, and bearing this in mind it is imperative to keep the patient in the recumbent position, though all other indications of the disease have disappeared, until the pulse has rallied in order to give the heart the highest possible degree of physiological rest. (From Dr. Oppenheimer's paper in *The Lancet*, March 11, 1899.)

DIURETIN IN HEART AND KIDNEY DISEASE.

Sconamiglio (*Rev. Thér. Méd.-Chir.*, December, 1898) has reported the use of this drug in 31 cases. In 19 of these there was a mitro-lesion complicated by arteriosclerosis. The results of its use in these cases were admirable, but on the other hand it was not of much value in conditions of the aorta, in atrophic cirrhosis, and pleurisy. This investigator noticed that the influence of the drug persisted for a long time after its administration was stopped. (*Therapeutic Gazette*, May 15, 1899.)

ENDOCARDITIS, GONORRHŒAL.

Dr. Bjelogolowy (*Wratch*, February, 1899) draws the following conclusions: (1) The gonococcus, like other pyogenic bacteria, may be the sole cause of a severe general gonococcic pyæmia, whose clinical course reminds one very forcibly of the ordinary pyæmia. (2) Once lodged in the circulation, the gonococcus may give rise to an ulcerative endocarditis, with the clinical picture of a malignant endocarditis. (3) During the course of

gonorrhœa a gonorrhœal endocarditis may occur without a preceding affection of the joints or any other gonorrhœal complication. (4) A positive diagnosis is possible only by means of a bacteriological examination, and this examination is all the more to be desired, inasmuch as the question of mixed infection in gonorrhœa is still very little understood. (Medical Record, March 18, 1899.)

ENDOCARDITIS, INFECTIVE, TREATED WITH ANTI-STREPTOCOCCIC SERUM.

In the *Mirror of Hospital Practice* in *The Lancet* of February 11, 1899, was published a case of septicæmia in which injections of anti-streptococcic serum were followed by recovery, and in which the presence of streptococci in the blood was definitely proved. In the case of a woman, aged 39, recorded by Drs. Abram and Griffith, a mixed infection occurred, and the injections of anti-streptococcic serum were apparently followed by the complete disappearance from the blood of the streptococci. Although the patient died, the value of the evidence afforded by the case in favour of the action of the serum is hardly less than if she had recovered. Every case in which the anti-streptococcic serum is employed after competent bacteriological examination should be put on record, whatever may have been the issue. (From report in *The Lancet*, February 25, 1899.)

HEART REMEDIES.—Auto-intoxication after.

Herr Riegel, in the *Deut. Med. Woch.*, No. 51, 1898, reports upon certain symptoms which he observed in several cases of heart disease with severe dropsy after the administration of diuretic remedies. He has also noticed that if under treatment with digitalis and like remedies the dropsical phenomena rapidly disappear, no grave symptoms have been known to succeed. A combination of digitalis with diuretin, which the author has administered in several cases, produced no threatening symptoms, notwithstanding extreme diuresis and frequently the rapid diminution of dropsy; and although even headache, somnolence, and delirium were produced, these phenomena never reached a higher grade and always disappeared rapidly. Upon the other hand, however, the author noticed in several cases of valvular insufficiency with severe dropsy after prolonged use (five to six days) of calomel, a remarkably increased diuresis, with almost immediate disappearance of dropsy, whereupon symptoms of collapse ensued which could scarcely be accepted but as auto-intoxication. In one case after administration of calomel for five days in doses of ten grains a day, the quantity of urine passed in twenty-four hours increased to 7,000 cubic

centimetres, and in another case increased upon the sixth day to 11,200 cubic centimetres. At the same time the dropsical phenomena retrogressed, bringing temporary relief to the patient, but a critical collapse soon ensued. The patients appeared as if in a state of coma, lying stupefied in bed, while their breathing was long and stertorous. In one of these cases, though the patient was already very weak, death occurred after a short time. Eichhorst, who has long since mentioned similar phenomena (though of a less severe form) after administration of digitalis and diuretin, does not look upon them as cause for apprehension, because all his patients recovered. The preceding observations demonstrate that under certain conditions the rapid retrogression of dropsy may bring most threatening phenomena in its wake. Nor is there room for any doubt that in these cases it refers to an auto-intoxication caused by toxic matter taken into the blood from the oedematous fluids. These observations may serve also as an admonition for extreme care in the administration of strong diuretics, especially calomel, in cases of acute dropsy. (Medical Age, February 25, 1899.)

HEART, SUTURE OF, FOR PENETRATING WOUNDS.

Professor Ninni (*Giornale internazionale delle scienze mediche*) finds by combining the statistics of Jamain, Latelenet, and Fischer, that in only 19 per cent. of the cases of penetrating wound of the heart does immediate death take place, so that in the great majority of instances surgical intervention may be resorted to in the well-grounded hope of saving life, provided no time is lost. He mentions eight cases treated by means of suture, and gives the details concerning one of them, which occurred in his own practice. In Farina's case the wound, which was at the apex and edge of the right ventricle, was about a quarter of an inch long. It was sutured immediately. The patient died on the sixth day, probably of pneumonia. In Rehn's case the wound, which was about half an inch long, was in the same situation. It was not until 24 hours had elapsed, and the patient appeared moribund, that suture was performed, with partial suture of the pericardium, and drainage of the pericardium and pleura established. The patient recovered. In Cappelen's case the wound was at the apex and edge of the left ventricle, and was about three quarters of an inch long. The left coronary artery was wounded. Intervention was resorted to within a few hours. Primary union took place, but the patient died of pericarditis on the second day. In Parozzani's first case the wound was of the same size and situation as in

Cappelen's. Suture was resorted to at the end of twelve hours. Primary union occurred, and the patient recovered. In Parozzani's second case the wound was the same in situation, but only about half an inch long. The operation was performed within a few hours. There was primary union, but the patient died in collapse on the second day. In the author's own case the wound, which was about an inch long, involved the anterior wall of the left ventricle a little beneath the transverse sulcus and a little to the outer side of the longitudinal sulcus, and ran parallel with the long axis of the heart. Surgical intervention was almost immediate, but the patient died before the flap of the thoracic wall had been entirely sutured. In Giordano's case the wound was of the edge of the left ventricle and was about three quarters of an inch long. After two hours the heart and pericardium were sutured, and drainage of the pleura was established. Death took place on the twentieth day, from septic pleurisy of the left side with multiple pulmonary abscesses on the right side. In Parlavecchio's case the wound was V-shaped. The two arms of the V measured together approximately an inch and a quarter. After eight hours it was sutured, primary union took place, and the patient recovered. Concerning Rudis-Jicinsky's case (*New York Medical Journal*, April 23, 1898), Ninni does not consider it certain that the wound was penetrating. Dr. Rudis-Jicinsky did not state that it was. The results, three recoveries in eight cases, may, we think, be held not only as warranting surgical intervention, but as rendering it imperative under ordinary circumstances. (From a leader in the *New York Medical Journal*, March 11, 1899.)

MURMUR, MITRAL DIASTOLIC.

From clinical examination of a considerable number of cases I have arrived at the following conclusions:—(1) The murmur in an early compensated case of mitral stenosis, such as is seen in the out-patient room and often discovered only on routine examination, is always presystolic. Early diastolic murmurs are practically never heard while compensation remains good. (2) On the other hand, when cardiac failure supervenes, and the patient is troubled with dropsy, cyanosis, and other symptoms of mitral stenosis, the murmur is frequently heard in the first half of diastole, although even now it is not so common as the presystolic murmur. (3) A presystolic murmur may or may not be accompanied by a systolic bruit, but an early diastolic murmur is almost always preceded by a systolic murmur. A single, early diastolic murmur at the apex is very rare in mitral stenosis, and strongly suggests aortic regurgitation, even if no murmur is heard at the base. (4) A presystolic murmur frequently changes into a diastolic murmur or *vice versâ* in

a short time, and the period of diastole occupied by the murmur may even vary in the erect and recumbent postures. The difference in the cause of these murmurs is therefore not likely to be found in any structural condition of the affected valves, but rather in the way in which the heart is working at different times. (From Dr. Bertram Hunt's paper in *The Lancet*, March 25, 1899.)

MURMURS, AORTIC AND MITRAL DIASTOLIC.

The diastolic murmurs of mitral and aortic disease, besides being often alike in nature, may both have their point of maximum intensity down the left edge of the sternum, about the level of the fourth rib. This leads to a difficulty in diagnosing the origin of the murmur in the more obscure cases. But there is, I believe, a reliable diagnostic point of difference in the rhythm of the two murmurs in question. I have for some time noted that the mitral diastolic murmur never follows so quickly on the termination of ventricular systole as the aortic regurgitant murmur may do, but that there is always a distinct sound-free interval after the second sound of the heart, or after a systolic murmur. On the other hand, the diastolic murmur of aortic origin, as a rule, follows so quickly after the termination of ventricular systole, that it appears to continue the second sound, when audible, into a murmur, or to be continuous with a systolic murmur, forming a "to-and-fro" or "see-saw" bruit. The diastolic murmur of mitral origin very rarely, if ever, continues the regurgitant systolic murmur in a "see-saw" fashion. (From Dr. Brockbank's paper in the *Edinburgh Medical Journal*, April, 1899.)

MURMURS, FUNCTIONAL CARDIAC.

Dr. Abraham Jacobi said in brief that after watching the subject carefully in children in whom the problem has less disturbing elements than at adult age, he is convinced that real functional heart murmurs, that is, murmurs due to faulty action of the valvular or muscular mechanism of the heart, but without pathological change in the organ, are much rarer than used to be thought. Changes in the myocardium of the heart are only now being given their proper value, and with that is coming the realisation that they may sometimes be the cause of murmurs. In children we often do not know a cause for a heart lesion. A preceding rheumatic attack makes it very clear in an adult. Rheumatism is often missed in children, however, and we do not care to pronounce on the existence of a heart lesion. At the time when the child's heart is developing, however, the cavities are growing larger, yet the muscle does not grow

thicker. During this period murmurs are not rare, and they would seem to be due to myocardial insufficiency at times, which shows that this may give a murmur really due to an organic, not functional, defect. (Medical News, May 20, 1899.)

RUPTURE, SPONTANEOUS, OF AORTA.

Dr. J. Lumsden showed this specimen before the Royal Academy of Medicine of Ireland. It was taken from the body of a girl aged 23 years, who was previously in apparently good health. She was evidently in the act of lifting down a heavy box from a shelf when she suddenly dropped dead. On opening the thorax the pericardium was at once seen to bulge forwards, and when incised was found to be quite full of clots. A small linear rupture, which just admitted an ordinary cedar pencil, was discovered at the root of the ascending aorta on its anterior aspect, immediately above the anterior sinus of Valsalva. When the interior of the vessel was examined a rent was found in the aortic tunics, commencing just above the junction of the right and left posterior aortic cusps, encircling the aorta parallel to the free margin of the valves, about $1\frac{1}{4}$ inch in length. Except at the point of rupture in front only the intima and media were apparently involved in the rupture, and doubtless had not the outer coat given way anteriorly a dissecting aneurysm might have resulted. The left ventricle was perhaps somewhat hypertrophied, but no evidence of valvular lesion was found. The condition was extremely rare, and it was hard to understand how, in the absence of any evidence of advanced degenerative changes, rupture could have taken place. (British Medical Journal, January 7, 1899.)

AFFECTIONS OF THE RESPIRATORY SYSTEM.

ASTHMA, BRONCHIAL.—The Treatment of.

V. Noorden calls attention anew to the treatment of asthma with atropine. He was led to employ it from the good results he observed in a case of severe asthma in a young girl with urticaria. He gave atropine for the urticaria, but with the unexpected result that this persisted, while the attacks of asthma diminished in frequency, and during the next two years did not return. He has used atropine since in many cases of asthma, and reports that with typical attacks one can at times attain excellent long-lasting cures. In a boy, in old people, or in those with complicating empyema and bronchial catarrh it was without effect. The daily dose at first was 0.0005 grammes ($\frac{1}{20000}$ grain) every two or three days, and was increased by $\frac{1}{2}$ milligramme

until 4 milligrammes ($\frac{1}{18}$ grain) atropine daily were given. After some time the dose was gradually diminished. The duration of medication was four to six weeks. The atropine was borne well, but V. Noorden considers it best to treat such patients in hospitals or have them under close observation. In two cases so treated he observed a decrease of the eosinophilic cells in the blood. (Boston Medical and Surgical Journal, May 11, 1899.)

BRONCHO-PNEUMONIA.—Belladonna in.

Dr. J. A. Coutts (*British Medical Journal*, January 28, 1899) highly extols the merits of belladonna in cases of infantile broncho-pneumonia. Dr. Coutts, after stating that he adheres to the prevalent opinion that there is an essential difference between croupous pneumonia and broncho-pneumonia in children, goes on to say that in just as much as the forms of the disease are distinct, so also is the treatment indicated. With it, as the sole drug administered, there has been in his cases no need for steam tents, oxygen inhalations, unlimited stimulations, and all the rest of the former varied and trying treatment. This is strong testimony, and as Dr. Coutts avers that the use of belladonna has greatly decreased the rate of mortality from broncho-pneumonia in children at the Shadwell Hospital, his championship of belladonna would seem to be justified. Dr. James Carmichael, of Edinburgh, who, although scarcely so vehement in his eulogy of the curative effects of belladonna in the pneumonias of infants, says: "The use of belladonna in certain cases of acute respiratory affections of children is one of the most striking therapeutic facts I know. The cases in which it is indicated are those particularly of infants attacked with acute congestive bronchial catarrh in the early stages." If belladonna truly be so useful, how is it that it has been altogether overlooked in this country? The novelty in Dr. Coutts' administration of belladonna is that he gives it in considerably larger doses than is generally the case. (Pediatrics, March 15, 1899.)

CREOSOTE CARBONATE, INTRATRACHEAL INJECTIONS OF.

Dr. Bayer, of Brussels (in the *Revue Hebdom. de Laryngol.*, No. 9, 1899), reports at length upon his success in the use of intratracheal medication in chronic catarrhal bronchitis and in pulmonary tuberculosis accompanied by profuse expectoration. He used a mixture of creosote carbonate and mentholated oil (two to eight drops of the creosote preparation with one-half to one cubic centimetre of 4 per cent. mentholated oil). The injections were well borne and had a good effect. He

recommends the carbonate of creosote with a bland diluent as being less irritating than other creosote preparations, and less likely to cause coughing and spasm of the glottis. When pure it is a bland liquid of syrupy consistence at ordinary temperatures, and of feeble odour as compared with creosote. With the aid of a suitable syringe the author injected one-half to one and a half cubic centimetres of the liquid mixture without distress to even very sensitive patients. In chronic bronchitis with profuse expectoration, in bronchiectasis with abundant purulent, foul-smelling sputa, and in some cases in which tubercle bacilli were determined in the sputa, the results were excellent, the expectoration diminishing, and body weight increasing. (Medical Age, April 25, 1899.)

EMPHYSEMA.—Causation of.

As a result of an inquiry as to the causation of emphysema, I submit to your judgment these propositions:—That pulmonary emphysema is chiefly due to forced inspirations, although forced expiration may to some small extent play its part. That the distension of the lung, in so far as it is due to inspiration, is secondary to distension of the chest. That the forced inspiration is rendered necessary by a feeling of dyspnoea. That the dyspnoea which occurs at the beginning of pulmonary emphysema, and which determines it, is consequent upon obstruction of the air passages. That in chronic progressive emphysema this obstruction depends upon bronchitis, either humid and attended with free secretion or dry with scanty secretion. That when once emphysema is set up, the dyspnoea and the necessity for forced inspiration are increased by the natural defect of expiratory power in the lungs and in certain parts of the chest, Nature having provided means insufficient for reducing excessive inspiratory distension to the normal, and for thus emptying the lungs of residual air. That the degeneration and atrophy of lung tissue are usually dependent upon preceding over-distension, although it is possible that pulmonary atrophy may to some extent be primary. (From Dr. Gee's Lumllean Lectures, British Medical Journal, March 25, 1899.)

EMPHYSEMA, CHRONIC.—Delorme's Operation for.

Dr. B. Sharlau said that Delorme had shown that it was only necessary to detach the thick fibrinous masses found in chronic emphysema to allow of the expansion of the lung. He advised resecting two or three ribs, thus giving free access to the pleural cavity, and then peeling off the exudate. The speaker said that he had tried the operation in seven cases, with six complete

recoveries and one death, the latter not being due to the operation, but to scorbutus from which the child was suffering at the time of coming to the hospital. By gentle manipulations to and fro the exudate could be loosened from all over the pulmonary pleura, only small portions requiring a cutting instrument to liberate them. In one case the lung was superficially torn, but the accident had given rise to no bad symptoms. In very old cases the exudate might have become so much organised as to be practically a part of the pulmonary pleura, so that it could not be removed without laceration of the lung; but so far he had not met with such a case. (From report in *Pediatrics*, April 1, 1899.)

ETHER PNEUMONIA PROPHYLAXIS.

Prophylaxis during etherisation, by mechanical means, as turning the head to one side, &c., has already been indicated, and should be carefully attended to. It seems to me preferable to use a small quantity of ether given with exact regulation by a Clover's inhaler rather than a large quantity given by a more open method, as by the American plan, in which there must of necessity be a greater chilling, irritating, and depressing effect of the ether on the air-passages. By rebreathing through the parts of the Clover's apparatus the adjuvant effect of CO_2 is obtained, and so less ether is needed. Cleansing of the nasopharynx, nasal passages, mouth, and throat has been recommended previous to etherisation, but it is difficult and awkward to carry this out thoroughly from the point of view of both patient and surgeon, and I do not think it is necessary in most cases. Certainly coughs and colds contra-indicate the use of ether, and, if possible, operation should be postponed till they can be cured. It is certainly advisable that the length of operations should be minimised, and that the surgeon should cultivate a dexterous speed in the interests of his patient. During and after operations unnecessary exposure of the patient should be most carefully avoided, and during a laparotomy a hot-water chamber beneath, and long hot-water bottles at the side of it, the patient will greatly lessen the danger of chill and depression of the vital powers. I think that there is rather a tendency in some places to give ether to all cases, and that if there be doubt as to the possibility of after-effects, the A.C.E. mixture or chloroform should be administered with very little hesitation, or, at any rate, ether may be given for ten minutes or so, and then changed for one of the above-mentioned anæsthetics. It is advantageous in every way to shorten the duration of induction of, and therefore the total quantity of, ether used in the anæsthesia by previously giving nitrous oxide gas. I am inclined to believe

with Dr. Anders that a certain proportion of cases of ether pneumonia pass unobserved. (From Dr. W. J. McCardie's paper, *Treatment*, January 26, 1899).

ŒDEMA OF THE LARYNX.

Typical œdematous laryngitis occurs as a result of simple catarrhal laryngitis and is extremely rare. Sestier, in a series of 215 cases, attributes this cause in 6 per cent. Mackenzie considers these cases in most instances due to septic infection, and mentions hospital physicians and nurses as especially predisposed to it. Dr. Rice expresses himself as much in doubt as to the authenticity of the cases of œdema reported as occurring secondary to a simple catarrhal laryngitis, on account of the imperfect exclusion of diphtheritic infection or heart and kidney lesions. Contiguous œdematous laryngitis is by far the most common form encountered, and it extends in most instances from some inflammatory affection of the pharynx. Consecutive œdematous laryngitis results from a disease of the laryngeal cartilages occurring as a sequelæ of small-pox, typhoid fever, scarlet fever, &c. Secondary œdematous laryngitis is an œdema of the larynx, occurring as a complication in various heart, renal, hepatic, and other affections, favouring local or general serous effusions. In these cases it is usually taught that the œdema is of a passive character. However, it is stated by Sestier, that "the intervention of a phlegmasia of the pharynx and larynx, or neighbouring tissues, is nearly always necessary," to the development of an œdema, even in these subjects. In 200 cases of Bright's disease examined by Mackenzie in the London Hospital, not a single instance of laryngeal œdema was found, which certainly suggests the truthfulness of Sestier's statement. (From Dr. C. E. Clark's paper in *Laryngoscope*, February, 1899.)

ŒDEMA OF LUNGS.—Venesection in.

The indication for venesection in cases of pulmonary œdema would seem to be its sudden and excessive development as a result of acute pulmonary congestion in a patient who has hitherto shown but moderate signs of failing compensation. Where it occurs in cases of general anasarca, toward the close of life, it is very questionable whether it is the œdema which destroys life, or whether this is not rather due to a progressive cardiac insufficiency of which the œdema is a mere terminal incident. At all events venesection is rarely indicated under such circumstances; no case has ever come under my observation where it was even considered. To feel justified in resorting to it, one must be confident that the œdema is an accident, as it were, resulting from some sudden and unusual strain upon the

heart, from which the latter is quite capable of rallying if only the extra burden be once removed. The good which it may then accomplish is certainly one of the most striking and beneficent results of therapy which the writer has ever seen. (From Dr. H. B. Whitney's paper in the *Medical News*, December 3, 1898.)

PHTHISIS IN SANATORIA.

The fourteenth annual report of the Adirondack Cottage Sanatorium (*Med. News*, Phila., February 25, 1899) notes that 38 patients were apparently cured during 1898, in 44 the disease was arrested, 39 were improved, 14 not relieved, and 6 died out of 141 (not taking note of three cases leaving in less than a week), or 4·2 per cent. Wilder (*New York Med. Journ.*, March 4, 1899) gives further statistics of this sanatorium :—

NUMBER OF PATIENTS TREATED IN 1897-98, AND STAYING MORE THAN THREE MONTHS, 203; AVERAGE TIME OF TREATMENT, NINE MONTHS.

Condition of Patients when Admitted.	Apparently Cured.	Disease Arrested.	Improved.	Unimproved.	Died.
Incipient (75)...	55	16	2	2	0
Advanced (84) ...	15	38	19	11	1
Far Advanced (44).	0	7	19	13	5
Total (203) ...	70	61	40	26	6

The report of the Loomis Sanatorium from November 1, 1897, to November 1, 1898 (*ibid.*, January 7, 1899), gives 28 cases out of 204 as cured, 67 as improved. In the first sanatorium, of 34 patients resident for less than three months, 6 were cured, in 7 arrest had occurred, 13 improved, 1 died, and 3 became worse; of 110 patients who stayed over three months (mean stay nine months), 27 out of 36 incipient, and 9 out of 48 advanced, cases were apparently cured; in 78 and 21 cases respectively, and in 3 far advanced cases the disease was arrested. (From Dr. Gillespie's abstract in the *Edinburgh Medical Journal*, June, 1899.)

Phthisis.—Physical Training in.

Ingals (*Dietetic and Hygienic Gazette*, December, 1898), in discussing the value of systematic physical training in prevention and cure of pulmonary tuberculosis, says: One of the first injunctions we should place upon the patient who has any reason to anticipate the development of pulmonary tuberculosis is that he should expand the lungs thoroughly several times every day. We must also personally inspect his mode of breathing to see that he knows how to carry out our instructions. In order to expand the lungs the patient should be directed to

draw in the abdominal walls and take a long, deep breath, while the shoulders are carried gradually backward, and the ribs and sternum elevated as far as possible ; he should hold his breath for a few seconds and then blow it out slowly and forcibly through a small opening between the lips. In this way not only the air-cells which can be reached by direct inspiration are inflated, but also those at the apices and along the border of the lungs, which otherwise might not be distended. One has only to try this method a few times when out of breath after active exercise to ascertain how much more effective it is than the ordinary method of respiration employed by those who have had no physical training. (Journal of the American Medical Association, January 28, 1899.)

Phthisis.—The Rest Treatment of.

K. F. Andvord (*Norsk. Mag. f. Lægevidensk.*, p. 654, May, 1899) emphasises the importance of a knowledge of the causes of phthisis. He refers to the tendency of the disease to come on when the system is worn out with overwork, psychical or physical, or after blood loss or exhausting maladies ; to the preference which tuberculous processes show to begin in the most anæmic and least nourished parts of organs ; to the weak state of the heart in phthisis ; and to the feebleness or fatigue of the nervous and circulatory systems which exists in the earliest period of the malady, a defect of harmony, congenital or acquired, in the trophic and vasomotor systems, perhaps of neuropathic origin. Hence in the treatment of phthisis there is great importance in economising the nervous force of the organism, and especially of the heart. This is done by getting the patient to live night and day in a pure atmosphere, to avoid all physical and psychical effort, and to take plenty of healthy food. Special stress is laid by Andvord upon the rest treatment, which is indicated always except in the rather chronic and apyretic forms where pulmonary gymnastics will have a beneficial effect. He insists upon the necessity for judging each case upon its merits, before deciding whether the sedative or stimulating line of therapeutics is to be adopted. Rest, even perhaps rest in bed, is indicated in most of the acute and febrile states, in cases of hemorrhage, and of pectoral pains, and irritating cough. (British Medical Journal Epitome, June 10, 1899.)

Phthisis.—Prevention of.

Dr. Newsholme thus concluded an opening address :—I beg finally to recommend to your consideration the desirability of making representations to the Local Government Board urging upon the

Board the importance of : (1) Allowing the same local option in respect of the notification of phthisis as of diseases which they at present allow to be added to the schedule of notifiable diseases. (2) Giving powers to local authorities to pay fees for voluntary notification of cases of phthisis. (3) Bringing up to date and codifying other sanitary legislation which has an important bearing on the prevention of phthisis—*e.g.*, further precautions against encroachment on open spaces at the rear of dwellings, enactments compelling local authorities to adopt proper bye-laws for the erection of new buildings, improvements of the Housing of the Working Classes Act, &c. (*The Lancet*, February 4, 1899.)

PNEUMONIA, ACUTE.—Salicylic Acid in.

The following is taken verbatim from Dr. W. C. Sebring's paper :—From observation I have come to believe that the results of the administration of the salicylate are these : (1) In the beginning of an attack it quickly quiets the tumultuous pulse. (2) It acts as a sedative to the general nervous excitement that is prevalent through that period ; indeed it seems to act as a hypnotic all through the course of the disease in many instances, as a fair proportion of the patients have slept a major part of the time until recovery had become well established. (3) It almost surely and quickly gives relief from the pleuritic pains. (4) It seems to inhibit the manifestation of malignant symptoms. Thus far none of the patients have developed the least delirium after beginning to take the drug, except the first, and five cases of drunkard's pneumonia, in which the delirium preceded the disease. (5) The pulse remains full and not over-rapid to the end, except in one case ; cardiac symptoms due to the disease itself have been unnoticed and symptoms of a "tired heart" do not often occur. (6) After the first few doses of the drug the patient will perspire freely as long as the diseased condition of the lung persists, but either from this cause, or from some other that the author is not cognisant of, the temperature seldom exceeds 103° F. (7) The cases will show a far smaller percentage of complications than is usual. (8) In nineteen out of twenty cases the disease will subside by lysis. (9) The length of time required for recovery is less than is the rule with patients that recover under the usual treatment and by lysis. (10) The infected lung tissue progresses to resolution more slowly than it does with the average case, though complete recovery from an attack—that is, return to normal health—is more expeditious. (11) There is a marked diminution in the severity of the disease, all conditions being taken into consideration. (*Medical Record*, April 22, 1899.)

PNEUMONIA, INFANTILE.

The fever runs very high in cases of pneumonia, but it is well known that children bear a high temperature very well. The antithermics, quinine, antipyrin, &c., are of no use unless given in large, that is to say, toxic doses. Cold water acts better and costs less. I have noticed that the cold bath (75 degrees to 65 degrees) was well supported by children, and when resorted to every three or four hours, it lowered the temperature, attenuated the dyspnœa, improved the pulse, and calmed any agitation, delirium, or sleeplessness that might exist. In cases where the malady is complicated with nervous manifestations, such as convulsions, I have found trional to be of great service in five or ten grain doses according to the age, repeated two or three times a day; where the heart showed signs of weakness moderate doses of digitalis might be useful, say, from one to four grains of the powdered leaves infused in a glass of water and drunk in divided doses during the day. (From Prof. Comby's lecture in the Medical Press and Circular, February 15, 1899.)

PNEUMONIA, NON-FEBRILE.

A gentleman, aged 33, with a history of alcoholism, first sought advice upon October 13, 1898, for headache, sickness, abdominal pain, and *malaise*. The temperature was 98·80°, pulse 80, respirations 20; no abnormal signs in the chest; tongue very foul. Next morning the patient felt better; the chest was again examined with negative results; in the afternoon the patient sat for some time in the dining-room and talked with friends. About 9 p.m. it was noticed that his breathing was becoming hurried. He passed a restless night. Next morning he was much worse, respirations 36, temperature in the mouth and in the groin 96·5°, well-marked signs of consolidation of the right lower lobe; at 4 p.m. the temperature was 98° in the groin and 99° in the rectum, respirations 36, pulse 106 and very weak, patient much collapsed, but quite conscious. The sputum was rusty. Towards evening the temperature for the first time began to rise, and at 8 p.m. it was 101°. Death took place at 9.30 p.m., within twenty-four hours of the first advent of definite pulmonary symptoms. Alcohol, strychnine, carbonate of ammonia, digitalis and oxygen were administered, but without effect. (From Dr. Lindsay's note, British Medical Journal, April 15, 1899).

PNEUMOTHORAX.

The signs of pneumothorax are as follows:—(1) Displacement of the heart and mediastinum. (2) Tympanitic resonance over the greater part of the lung area, with feeble breathing and

dulness at the base. (3) Metallic sounds, including metallic tinkling and metallic echo—the *bruit d'airain*. (4) Hippocratic succussion.

(1) Displacement of the heart or mediastinum does not always occur, it is true, yet so constant a sign is it that it is remarkable how recently only it has been described. One may readily suppose that in such cases where strong pericardial and pleural adhesions have been formed as well as in those where the opposite lung is consolidated, such a mediastinal displacement would not be found. So quickly does this displacement take place that even before the first severe pain following the perforation is over, the heart cannot be found in its normal place.

(2) The characteristic variety of percussion note is readily understood, but in this, considerable variation may be observed owing to the tension of chest wall. When pneumothorax occurs, in a very large percentage of those cases where life is prolonged, some form of fluid exudate develops in the pleura. Generally a purulent pleurisy is induced, and then the characteristic basic dulness is found, but only after considerable effusion has been poured out.

(3) Metallic sounds are not characteristic of pyopneumothorax, since they are sometimes heard in other thoracic conditions. Yet they are very frequently associated with the condition, and even the coin sound or *bruit d'airain* may be heard over large smooth-walled cavities. This sign is not always present, and it has been seen to vary from time to time in the same subject.

(4) Hippocratic succussion is a conclusive sign, concerning the presence of air (gas) and liquid simultaneously within a cavity.

A question in the diagnosis of perforative pneumothorax often arises, whether one has a valvular or free opening, or if the case is seen after this condition has been present for some time, whether there be any communication remaining between the bronchus and the pleural sac. Some have urged that one can decide upon this question by observing the character of the breath sounds. If one hears the inspiratory murmur and the expiratory murmur one must conclude that the air enters and leaves the pleural cavity. It would appear, however, from the history of several cases that this is not reliable. Such auscultatory findings show at most, perhaps, that air enters the lung involved and doubtless the changed character of the respiratory murmur is a product of collapsed lung and resonating chamber—the pleura sac. Powell, of London, in his work on "Diseases of the Lungs and Pleura," holds, on the contrary, that an amphoric respiratory murmur is diagnostic of a free opening, and of special value on this point is the expiratory portion of the amphoric sound. (Dr. Hamilton, Montreal Medical Journal, Dec., 1898.)

TUBERCLE BACILLUS, A NEW STAIN FOR.

The preparations were fixed as usual and immersed for ten minutes in a saturated 80 per cent. alcoholic solution of sudan iii. They were then washed from five to ten minutes in 70 per cent. alcohol. Upon examination the tubercle bacilli were found to be stained a distinct red, and presented the characteristic appearance. No other bacilli present in the sputum had been stained by the sudan iii, though they were evident in quantity when the preparation was counterstained with methylene blue. The tubercle bacilli still retained their characteristic red colour and appearance. (From Dr. Marion Dorset's paper in the New York Medical Journal, February 4, 1899.)

AFFECTIONS OF THE DIGESTIVE SYSTEM.**ABSCESS OF LIVER DUE TO AMŒBÆ.**

These abscesses are of a very untractable and fatal nature. Lafleur states that on seven cases observed in Baltimore only one recovered. The cause of this enormous mortality is the fact that, differently from what happens in other abscesses, when well drained, the amœbic shows no tendency to heal, and necrosis of the surface of the liver abscess takes place. This, no doubt, is due to the action of the amœbæ. If these protozoa could be destroyed, healing and recovery would take place. Now it is proved that amœbæ can be easily killed *in vitro* by a solution of 1 in 5,000 of quinine, or by a very weak solution of nitric acid. What makes it then so difficult to obtain the same result on the amœbæ in the living human liver? I am inclined to think that so long as the original amœbic *nidus* in the large intestines remains untouched by germicides, there takes place a constant re-infection of the liver with new amœbæ, carried to it by the portal blood stream from the bowels. I think that in the future, as soon as a liver abscess is opened, and that amœbæ are found, whether symptoms of dysentery may have been apparent or not, we should wage active war to the amœbæ, not only in the liver abscess by means of sprays, but also in the large intestine by means of large irrigations with suitable quinine or nitric acid solutions, and hope that by so doing we may diminish the present large mortality of these cases. (From Dr. T. Fiaschi's paper in the Australasian Medical Gazette, December 20, 1898.)

APPENDICITIS.—Foreign Bodies in.

Dr. Mitchell collected the data of 1,400 cases from various sources. It is interesting to note the objects which have actually been found in the appendix, such as shot, pins, worms,

gallstones, a tooth, and a piece of bone. Fenger reported a case of two grape seeds. Osler reported foreign bodies twice—in one instance five apple pips, and in another nine snipe shot. Frequent cases of gallstones have been cited. The most common class of foreign bodies, however, are pointed bodies. It is supposed that these become engaged in the cæcal opening of the appendix more readily than any other foreign body. Conspicuous among these pointed bodies are pins. Roswell Park and McBurney had each two cases, and after a careful search Dr. Mitchell records 28 other cases in which a pin had been found to perforate the cæcum. A curious feature of these cases was that in no instance was there any knowledge of swallowing a pin. Many interesting cases are recorded of lumbricoid worms entering the vermiform appendix. The readers of this journal may recall the report of a case in which a portion of a clinical thermometer was found in the appendix. (From editorial article in *Medical Age*, April 10, 1899.)

ASCITES, ACUTE HEMORRHAGIC.

Dr. Finny recorded the clinical notes of a case of ascites which occurred in a gentleman, aged 42, and which ran its fatal course in three months from its onset. Paracentesis was required five times in the last three weeks, and removed $6\frac{1}{2}$ gallons by simple drainage. The fluid from first to last was like blood in colour, and on standing deposited a soft, deep-stained sediment one-eighth or one-tenth of the volume. The patient was apparently, up to the last fortnight of his life, a healthy, well-nourished man, of a good fresh colour, a bright disposition, and of very active habits, and even up to a month before his death was able to go out partridge shooting and walked eight miles, and all through his illness he had a good appetite and partook of solid food. He never experienced any gastric or intestinal distress, and were it not for the great size and inconvenience of the abdomen he made no complaint. However, he was very sensitive to any jolting in a carriage, and to any slight impact against the epigastrium. The primary diagnosis, based on the ascites and the apparent diminution of liver dulness, yielded after the second tapping to that of malignant disease of the omentum, although no tumour could be detected before or after tapping. This was confirmed by the post-mortem examination, which revealed an enormous thickening of the transverse mesocolon and omentum by a soft growth, which filled up the whole of the left side of the abdomen, and was in part 2 inches thick, and which readily broke down on handling and oozed blood from every part. Dr. Purser pronounced the neoplasm to be sarcomatous. Dr. Finny pointed out the extreme rarity

of hemorrhagic ascites ; of its being in such quantity as to make tapping imperative ; of its so rapidly re-forming ; and of the absence of all inflammatory symptoms or rise of temperature. (British Medical Journal, December 10, 1898.)

CALCULI, BILIARY, IN CHILDREN.

Dr. G. F. Still, after noticing the rarity of the above, gave details of three cases in which a necropsy had been performed ; these he had come across within six months at the Great Ormonde Street Hospital for Children. In the first, a child, aged 9 months, there were vomiting, clay-coloured stools, no jaundice, and no colic. After death (which occurred from other causes) there were found eleven small, black, friable calculi of pigment, three of which were impacted in the common bile-duct. The second case was that of a girl, aged 8 months, who died with tuberculous meningitis. There was no jaundice or abdominal pain. There were three minute calculi of pigment in the gall bladder. In the third case, a boy, there were abdominal pain and vomiting, but no jaundice ; the calculi were of the same kind. The author had seen what he considered a fourth case during life, where there were recurrences of vomiting, abdominal pain, and jaundice. Altogether he had been able to collect twenty published cases, of which ten were in infants. In some, calculi had been found in the fæces, in others at the necropsy. In many colic and jaundice had been observed during life ; the usual cause of infantile colic nevertheless was renal. The biliary calculi might be formed during intra-uterine life, and he thought that the viscosity of the bile in infancy, which led to a secondary stagnation, was probably connected with the formation of such concretions. (British Medical Journal, April 8, 1899.)

CHOLECYSTITIS, TYPHOIDAL.

Acute cholecystitis is a grave complication of typhoid fever, occurring most frequently in the third week, due, in all probability, to an infection of the bile passages, by the typhoid bacillus producing an obstruction to outflow of bile, thus rendering the bile a favourable medium for the growth of the typhoid bacilli, another source of infection being through the hepatic tissues from the blood ; the most constant symptoms being pain and tumour in the right hypochondrium. Treatment, prompt operation on development of tumour. (From Dr. Camac's paper in the American Journal of Medical Sciences, March, 1899.)

COLIC, HEPATIC.—Sudden Death in.

M. Chauffard (*Indépendance médicale*, February 1) recently reported to the *Société médicale des hôpitaux* the case of a woman, aged 47 years, who for seven days had been suffering from a violent attack of hepatic colic. She was an alcoholic, and had had numerous attacks, some grave, prolonged, and accompanied by jaundice, others mild and without jaundice. The present attack was the most severe and the longest of all. Moreover, slight jaundice had been present from the second to the fourth day, abundant epistaxis had occurred on the third and sixth days, metrorrhagia on the fourth, and there were, in addition, agitation and nocturnal delirium. The patient clamoured for an injection of morphine. There were no sign of cardiac collapse, and the temperature in the vagina was only 98.2° F. About a seventh of a grain of morphine was given hypodermically. Half an hour later, when the pain had been assuaged, the patient was found dead in bed. At the autopsy the liver was found normal; the gall bladder neither dilated nor atrophied, but containing a dozen calculi, large and small, and a considerable quantity of a whitish, semi-transparent, viscous liquid, which, on analysis, contained neither bile acids nor pigments. A calculus as large as a dwarf pea was firmly embedded in the duct immediately above the hepatic duct, firmly fixed, and completely obstructing the lumen. The heart was healthy, without clots, and contracted in systole. All the other organs were sound. Was death due to reflex syncope? That is not likely, since it occurred not during the paroxysm, but after the suffering was quieted. Moreover, in syncope the heart is arrested in diastole, not systole. The most plausible explanation assigns a toxic cause for death. Several conditions concurred to lessen the resistance of the organism—alcoholism, nervous exhaustion due to seven days' suffering, anæmia due to repeated hemorrhages, and self-intoxication of hepatic origin. In these conditions even a small dose of morphine may prove dangerous. To this the *Gazette hebdomadaire de médecine et de chirurgie* for February 2 adds that nervous exhaustion and hypothermia must be taken into account in cases of this kind. Morphine must either be avoided or given according to the suggestion of M. Ferrand by adding an equal amount of ether to that of the morphine solution used. (New York Medical Journal, April 8, 1899.)

COLIC, INFANTILE.—Treatment of.

The treatment of colic requires the immediate relief of the pain and attention to the diet so as to prevent its recurrence. The use of warm enemata will usually remove the gas, which is, for the most part, in the colon. The enema may be of soapsuds and

water, or may contain a few drops of turpentine, or a half teaspoonful of glycerine. Hot applications should also be made to the abdomen, and the feet and hands be warmed at the fire or by the hot-water bag. It is a popular notion that if the baby's feet are kept warm it will not suffer from colic. A number of different remedies have been recommended for use by the mouth. I prefer small amounts of hot whisky and water with a drop of essence of peppermint and a little sodium bicarbonate. The late Dr. Larrabee used to recommend one of the following combinations:—℞ Spirit ammonii aromat, m. vi; sodii bicarbonatis, gr. xii; syr. rhei aromatic, ʒi; aquæ carui, ʒi ss. M. ft. sol. S. teaspoonful p. r. n. Or the following:—℞ Tr. asafetidæ, m. xv; Ol. cajeputi, gtt. ii; magnesiæ carbonat, ʒ ss; syr. acaciæ, ʒ ss; aquæ anisæ, ʒi ss. M. ft. mist. S. Teaspoonful p. r. n. Some form of cathartic should be administered after relief of the urgent symptoms so as to rid the bowels of the undigested food or other substance which initiated the attack. The aromatic antiseptics, when given diluted in hot water, are often of service in relieving the paroxysm and preventing the formation of gas. The prevention of colic embraces the whole question of infant feeding, and only a few salient points can be selected from that large subject. (From Dr. Barbour's paper in *Pediatrics*, 1899, p. 403.)

DIGESTION OF STARCH IN THE STOMACH.

From the results of various experiments the following facts seem to be well established:—(1) Taka-diastase digests starch with remarkable rapidity in a neutral, or slightly acid, medium; and its rapidity is directly proportional to the quantity of taka-diastase used. Taka-diastase in the above medium is capable of digesting three hundred times its own weight of starch in one hour. (2) The digestion of starch by taka-diastase is accelerated and enhanced by the presence of a small quantity of free hydrochloric acid, while beyond a certain amount the free hydrochloric acid retards and eventually arrests the diastatic digestion. (3) The digestion of starch by taka-diastase is not interfered with by organic acids for all practical purposes; on the contrary, the presence of a small quantity of organic acid enhances the diastatic digestion of starch. (4) The presence of albumin combined with hydrochloric acid seems to lessen the hindering action of free hydrochloric acid on starch digestion. (5) Albuminous foods—both of animal and vegetable origin—combine with, or neutralise, free hydrochloric acid of gastric juice, making the acid perfectly inert. The combined hydrochloric acid has no hindering action on diastatic digestion by starch. (6) In dogs' stomachs, when albuminous foods are given with starchy food, no free

hydrochloric acid is found at the end of one hour, and in the meantime starchy foods are perfectly digested. (7) In the human stomach, when an ordinary regular meal is taken, the albuminous matter of the food combines with the hydrochloric acid of the gastric juice as fast as it is formed, at least for a period of one hour, and such combined hydrochloric acid has no hindering action on starch digestion; and the diastatic digestion of starchy food is practically completed within that period. (From Dr. A. E. Austin's paper in the Boston Medical and Surgical Journal, April 6, 1899.)

DILATATION OF STOMACH.

There are several drugs which can be used to great advantage in the treatment of atonic dilatation. Among these, the tincture of *nux vomica* can safely be said to take first place. Strychnine may be equally effective. A combination of the sulphate of quinine and strychnine is often very good. If there is diminished HCl in the gastric juice, small and frequently repeated doses of HCl are beneficial after the meals of solid food. If there is an excess of HCl, a combination of sodium bicarbonate, calcined magnesia, and bismuth subnitrate can be administered to advantage. If the constipation is not relieved by the hygienic and dietetic measures, and by the massage, the electricity, and the physical exercises to which reference has been made, glycerine suppositories may be used. Fluid extract of *cascara sagrada*, with tincture of belladonna and glycerine, may be given in small doses, if the suppositories are not effective. The prognosis in these cases is good if the physician can have full control of the patient. Often the symptoms will disappear long before the stomach resumes its normal size. (From Dr. John Lichty's paper, Medical Press and Circular, May 31, 1899.)

DUODENAL ULCER.—Successful Surgical Treatment of.

Taylor (*North Car. Med. Jour.*, February 5, 1899) reports one of the very few instances in which perforated duodenal ulcer has been successfully sutured. The patient was a girl, aged 17 years, who had at different times complained of indigestion. Perforation occurred about three hours after supper, and operation was performed twelve hours later under the supposition that the appendix was involved. This prolonged the operation, but when the perforation was found it was quickly sutured. Convalescence was retarded by suppuration along the numerous gauze drains, but was ultimately complete. (Medical News, April 1, 1899.)

ENTERITIS, MEMBRANOUS.

Einhorn (*Medical Record*, January 28, 1899) says that recently von Noorden advised a very coarse diet, being guided by the idea that the intestinal tract should be exercised and strengthened by increased work. He recommends half a pound of bread per day containing plenty of chaff, leguminous vegetables, garden vegetables rich in cellulose, fruits with small pips and coarse skin, as currants, gooseberries, grapes—these being foods rich in undigestible material, thus forming much ballast for the bowel. Among fifteen patients subjected to this treatment by von Noorden, seven were permanently cured, seven improved, and one was unchanged. This method has certainly much in its favour; it may be better, however, not to institute this diet abruptly, as suggested by von Noorden, but rather gradually. (*Therapeutic Gazette*, May 15, 1899.)

GALL BLADDER, RUPTURE OF.

Hochenegg showed a woman, aged 47 years, on whom he had operated for presumptive volvulus. The history began with an illness that seems to have been intermittent in its character, with violent pains in the abdomen, accompanied by vomiting. This went on for some time, till a sudden tear, as if something had given way in the abdomen, occurred, and a large tumour formed which necessitated immediate action. No gas or fæces came from the bowel, neither was there vomiting or hiccough present after this occurrence. On opening the abdomen it was found filled with gall-coloured fluid, six litres being drawn off. Further exploration revealed the gall-bladder torn and collapsed, and containing a large stone. After removing the stone and washing out the abdominal cavity the gall-bladder was stitched and the wound closed, after which the patient steadily returned to her usual health. Owing to the wide diffusion of fluid in the peritoneal cavity, a drainage tube was left in the wound to prevent inhibition if possible. (*Medical Press and Circular*, May 31, 1899.)

HERNIA, UMBILICAL, IN CHILDREN.

For years we have employed in the Children's Department of the Vanderbilt Clinic a flat pad (cork, thin board, large button, or coin, &c.) to prevent the protrusion of the intestines into the umbilical sac. The pad (round, oval, or other shape) must be larger than the aperture, and should be covered with sheet lint, gauze, or absorbent cotton, and kept in place by strips of adhesive plaster. To prevent irritation of the sensitive skin, Jacobi advises Dieterich's plaster, which contains 10 to 20 per

cent. zinc, and is not open to this objection. Additional support to the abdominal muscles is afforded by the application of the ordinary binder, or belly-band, sufficiently broad to take in the entire abdomen. A knitted or elastic bandage, with a flat pad properly covered, and larger than the aperture, may be employed if the plaster irritates or produces a dermatitis. Such cases ought to be seen at regular intervals by the attendant, to note progress and make the necessary changes in the dressings or other appliance employed. (From Dr. F. Huber's paper in *Pediatrics*, March 1, 1899.)

HYDROCHLORIC ACID IN GASTRIC AFFECTIONS.

In his thesis, according to the *International Medical Magazine*, December, 1898, Perran describes the favourable effects produced by large doses of hydrochloric acid taken according to the method employed with success by Dr. C. Tournier in his private practice, as also by Dr. Lépine, of Lyons. Dr. Tournier gives hydrochloric acid in the French official dose of from three to four grammes (forty-five minims to one drachm) daily in the following manner:—The patient takes fifteen drops of the acid a few minutes after finishing each of the two principal meals, then at the end of half-an-hour he takes another fifteen drops, and lastly, in certain cases, he again takes fifteen drops after an interval of thirty minutes. Thus administered the hydrochloric acid would be tolerated and its use prolonged without inconvenience for several months. This medication is indicated in gastric hypochloridia in general, and especially in lenteric diarrhoea accompanied by extreme hypoacidity of the contents of the stomach. A second group of cases, where the use of large doses of hydrochloric acid produces good results, is found in certain gastric conditions with functional hypochloridia, which may be observed in neurasthenic patients, and shows itself especially in alimentary vomitings with no burning sensations and unaccompanied by soreness. The use of hydrochloric acid in these cases does not fail to control these vomitings. Lastly, this drug is especially useful in cases of gastric catarrh with hypochloridia of alcoholic origin, when the troubles consist more especially of alimentary vomitings, distension, sensation of weight after meals, insomnia, and loss of appetite. The conditions which might constitute a formal contraindication to the use of hydrochloric acid are those in which the gastric troubles are accompanied by a pronounced hyperæsthesia of the mucous membrane of the stomach for all acids. (*New York Medical Journal*, January 14, 1899.)

ILEUS.—Massage in the Treatment of Post-operative.

Haberlin (*Centralblatt für Gynäkologie*, 1898, No. 42) reports cases of intestinal obstruction after cœliotomy treated successfully by massage after the usual means had failed. He recommends abdominal massage, with change of the patient's position, soon after operation, in order to encourage peristalsis and to prevent intestinal adhesions. In case such adhesions occur, with evidences of obstruction, he believes that massage should always be tried in preference to re-opening the wound. The fear of causing hemorrhage is unfounded, and there is no risk in tearing recent adhesions of injuring the gut. The only exception is in the case of adhesions which serve to wall off purulent foci. The pain attending the manipulations is not severe; even if increased it does not serve as a contra-indication. A loop of intestine adherent in Douglas's pouch or to a stump can be freed in this way; laxatives and enemata are to be employed at the same time, except in cases in which too active peristalsis is undesirable (as in incarcerated hernia). If a secondary cœliotomy becomes necessary the patient's chances of recovery are not jeopardised by the massage. (*American Journal of the Medical Sciences*, February, 1899.)

INTESTINAL OBSTRUCTION, LOCATION OF.

In regard to the location of the obstruction, the nearer it was to the stomach the more severe were the symptoms of pain and vomiting. As a rule, the pain from obstructions in the small intestine centred in the navel. Tympanites was absent if the seat of the obstruction was high up, and marked if it was situated low. Post-operative obstructions were usually met with at the junction of the large and small intestine. In 75 per cent. of cases constipation was present, and in 25 per cent. constipation alternated with diarrhœa. Adynamic obstruction (due to paresis) presented many difficulties in the matter of diagnosis. Exploratory laparotomy was not infrequently called for in chronic obstruction in order that a satisfactory knowledge of the condition of the parts might be obtained. We could often make a diagnosis between the large and small intestine, and yet remain in doubt as to the character of the obstruction. There could be no question that too much conservatism had sacrificed many lives. As to the indications for treatment, surgical interference was generally demanded except in cases of fecal impaction, the operative procedure varying according to the circumstances of the case in question. A considerable proportion of the cases of chronic obstruction was due to peritoneal inflammation resulting from abdominal operations, and he thought that surgeons should observe greater care in opening

the peritoneum with a view to the prevention of such an unfortunate sequela. (From Dr. Leroy J. Brooks's paper in the Boston Medical and Surgical Journal, December 8, 1898.)

IODINE IN INFANTILE GASTRO-ENTERITIS.

Bizine (*Semaine médicale; Revue des maladies de l'enfance*, January) reports particularly favourable results from the use of this mixture: R Emulsion of castor oil, 6 ounces; oil of peppermint, 3 drops; oil of cloves, 5 drops; tincture of iodine, 10 drops; chloroform, 2 drops. M. S.: A teaspoonful every hour. The mixture should be kept on ice to prevent decomposition. One bottle is usually enough, but if after that has been taken there is still a little diarrhœa, 10 grains of iodized starch may be divided into six doses, one to be taken twice a day. (New York Medical Journal, February 18, 1899.)

LIVER, ABSCESES OF.

Dr. Edward E. Feild (*Georgia Journal of Med. and Surg.*, December, 1898) says that among the exciting causes of liver abscess should be mentioned in the order of their relative frequency: (1) Dysentery (mainly tropical dysentery), in which the *Amœba coli* was generally present as a causative factor; (2) extension of inflammation from adjacent structures; (3) pylephlebitis; (4) phlebitis of umbilical vein; (5) suppurating hydatids; (6) actinomycosis; (7) trauma; (8) suppuration of gall-bladder; (9) typhoid ulcer; (10) tuberculosis. Tropical dysentery seemed by far the most frequent cause of liver abscess. (From abstract in the New York Medical Journal, February 25, 1899.)

LIVER, CIRRHOSIS OF.—Surgical Re-establishment of the Interrupted Portal Circulation.

Wier (*Medical Record*, February 4, 1898) had his attention first directed to the subject of re-establishing surgically the interrupted portal circulation by a communication of Drummond and Morrison, who stated that they had cured a case of ascites due to cirrhosis of the liver by simply bringing about adhesions between the omentum and parietal peritoneum, as well as between the upper surface of the right lobe of the liver and the diaphragm. Wier's case, one of cirrhosis from alcoholism, had been tapped several times at intervals of about a week, two or three gallons being removed from the abdominal cavity each time. He lost rapidly in weight. The liver and spleen were both large—the spleen twice its normal size. A four-inch incision was made over the upper third of the right rectus muscle; the anterior superior surface of the right lobe of the liver, the

corresponding diaphragmatic part of the peritoneum, and the parietal peritoneum adjoining the wound, were freely scraped with the sharp point of a steel hat-pin, and the omentum was stitched on each side of the wound by six or eight catgut sutures, the wound being finally closed by buried layer sutures. Before this was done a smaller opening, one inch long, was made above the pubis, to admit a double perforated glass drainage-tube to the space behind the bladder, to which was subsequently attached a Cathcart's permanent siphon. Compression of the abdominal walls was accomplished by broad strips of adhesive plaster. The patient died five days later, from extensive peritonitis, probably caused by infection of the drainage-tube. (*Therapeutic Gazette*, April 15, 1899.)

PYLORUS, CONGENITAL STENOSIS OF THE.

This is a somewhat mysterious disease or deformity which has been occasionally met with in infants, and is apparently, if at all pronounced, early fatal, owing to the inanition which it produces. Cautley has recently (*Royal Medical and Chirurgical Society*, 1898) collected 20 cases: in 14 there was marked hypertrophy of the pylorus, which may form a tumour large enough to be perceived during life. The characteristic symptoms are:—(1) Vomiting, occurring without apparent cause and persisting in spite of treatment; (2) the absence of bile from the vomit; (3) obstinate constipation; (4) marasmus; (5) the presence of a tumour in the region of the pylorus; (6) the absence of abdominal distension, except dilatation of the stomach in some instances; (7) the absence of signs or symptoms of gastritis, and of the more common forms of intestinal obstruction. Ashby has published a paper on the subject which is made the more interesting by the excellent illustrations. (*Practitioner*, 1899, p. 637.)

TYPHOID PERFORATION.—Operative Treatment of.

Mr. J. E. Platt presented a communication to the Manchester Medical Society upon this subject and described three cases in which he had operated. (1) Male, aged 37 years, perforated at end of second week of a mild attack of typhoid fever, operation after 22 hours, perforation sutured, irrigation of peritoneal cavity, drainage. The patient subsequently had a relapse of the fever, which lasted three weeks, but eventually he made a good recovery. He was shown at the meeting. (2) Male, aged 17 years, perforation in fourth week of a severe attack, suture 18 hours later, death after 8½ hours. (3) Male, aged 22 years, perforation in third week of a severe attack, suture after 19 hours, death at end of second day. Reference was made to the characters of the peritonitis which followed perforation, and to

the objections which had been raised to operative interference. In performing the operation it was recommended that the incision be made on the right side, that the perforation be closed by Lembert sutures without paring of its edges, that the abdomen be irrigated with saline solution, and that drainage be provided. The results of the operation were considered, and it was shown that the recovery-rate in recorded cases had been about 20 per cent. The best results had been obtained when the operation had been performed from 12 to 24 hours after the onset of perforation. After the lapse of 24 hours the chances of success were very small indeed. When perforation occurred during a mild attack of fever, or when it came on at a late stage of the disease, there was more hope of a successful issue. (*British Medical Journal*, February 11, 1899.)

[Dr. George P. Yule (*Edinburgh Medical Journal*, 1899, p. 360) also reports a successful case in a man aged 37 years. Perforation occurred about the twelfth day. Operation was performed a few hours later, and the patient recovered in spite of a relapse.]

Mr. A. E. Pearson read before the Leeds and West Riding Medico-Chirurgical Society the notes of a case of enteric fever occurring in a boy aged 14 years, in which perforation had occurred *on the sixteenth day* of the disease. A limited peritonitis was the result, involving the right iliac, hypogastric, umbilical, and part of the left iliac regions. The abdomen was opened in this last-named region *on the twenty-fifth day* of the illness, and about a pint of faecal-smelling pus evacuated. Drainage tubes were inserted and satisfactory progress was then made, the temperature, pain, and discomfort subsiding until fourteen days after the operation, when a relapse of the specific infection followed. This fresh rise of temperature lasted some fourteen days, after which the patient made a perfect recovery. (*British Medical Journal*, May 6, 1899.)

AFFECTIONS OF THE URINARY AND GENERATIVE SYSTEMS.

ALBUMINURIA AND LIFE INSURANCE.

Dr. Bailey, an examiner for life insurance, stated that he could not ask any company that he represented to insure a person whose urine showed either albumin or sugar. While it was recognised that albuminuria or glycosuria might be transitory, he asked how one could know that in a given case it was transitory, unless repeated examinations were made and the abnormal condition was found only once. Almost any healthy person might show albumin in the urine after an unusual

amount of bicycle-riding ; yet even in such cases it was sometimes very difficult to decide whether the albuminuria was transitory or not, and in the case of a man with such a history he would not ask a company to accept the risk. He did not feel at liberty to recommend a person for insurance if at the time of the examination the urine contained either albumin or sugar, no matter what the circumstances were. The best that he could bring himself to do was to ask that the application be "held up." We take it that this is the view taken by the great majority of capable and conscientious examiners and by the conservative companies also. (From a leading article in the *New York Medical Journal*, February 18, 1899.)

BREAST, CYSTS OF.

The majority of these cysts were in married women who had had children (twenty-two married, seventeen unmarried), and in only four was there a history of mastitis or sore nipples. A blow or fall was noted in six cases as a possible cause. The ages were in seventeen cases forty to fifty years, ten cases thirty to forty years, nine cases over fifty years, three cases under thirty years. The duration of the cysts varied from one week to ten years, but most were detected early, seventeen being diagnosticated within three months from their appearance, seven in from three months to one year, and five in from one to ten years. The size of the cyst has varied from that of a large bean to that of an egg, intermediate proportions being described as of the volume of an olive or chestnut. There was a single cyst in one breast in twenty-six instances, two or more cysts in seven, one cyst in both breasts in four, and two or more cysts in both breasts in two cases. An enlarged auxiliary gland has been seen in two cases, but it was not hard. About one-half of the patients discovered the tumours by accident ; one-half had their attention attracted by painful sensations. The fluid contents have always been thin, turbid serum, grey or light brown in colour. The microscopical examinations of this fluid and of the wall of the cyst have not been preserved. (From Dr. W. T. Bull's paper in *Medical Record*, April 22, 1899.)

CALCULUS, RENAL.—Skiagrams of.

Ringel (*Centralbl. f. Chir.*, No. 49, 1898) comes to the conclusion, now universally admitted, that the chemical composition of the calculus influences the result of the exposure very considerably, and states that an oxalate calculus forms a well-defined picture, a urate calculus presents but an indistinct outline, and a phosphatic calculus transmits the rays as easily as a gall-stone. He also states, as the result of his experience, that vesical calculi

are unsatisfactory for X ray examination, much of which does not seem to coincide with the results obtained by other observers. (Abstract in *Treatment*, March 23, 1899.)

CYSTITIS, LOCAL ANÆSTHETICS IN.

These are of great value, both as treatment in themselves, and as a preliminary to the instillations of solutions more or less painful. It is unnecessary, perhaps, to add that, whatever anæsthetic be used, its absolute sterilisation, in spite of the presumably infected state of the bladder, is essential. *Antipyrin*: In mild cystitis in which there is no excessive tenderness to tension, and which it is intended to treat with nitrate of silver, antipyrin, dissolved in ten times its weight of water, undoubtedly renders the mucous surface of the bladder less sensitive to the search of the nitrate. *Guaiacol*: In very acute cystitis, both antipyrin and cocaine yield in efficacy, as a preliminary injection to the medicinal agent it is intended to use, to guaiacol, in the formula that Professor Picot of Bordeaux uses for hypodermic injection—Iodoform, 1 part; guaiacol, 5 parts; sterilised olive oil, 100 parts; of which solution 1 drm. may be injected thrice daily without any inconvenience. The entire quantity used in solution should not exceed $1\frac{1}{2}$ grains of the hydrochlorate of cocaine. The solution should be 1 per cent. of recent preparation, and administered with the patient in the dorsal decubitus. This rule may, to a certain extent, be modified, and solutions may be required as strong as 2 per cent., or may suffice as weak as 1 in 200 or 1 in 400. A good rule, however, is never to exceed the injection of $1\frac{1}{2}$ to 2 grains of cocaine. (From Dr. A. A. Warden's paper in the *Edinburgh Medical Journal*, January, 1899.)

GONOCOCCUS, THE

To sum up the diagnosis of the gonococcus by the microscopical examination we have the following:—(1) Diplococci about one micromillimetre in size, of a coffee-bean shape, and situated in characteristic grouping. (2) The intercellular position. (3) The complete decolorisation by the Gram method. No one of these characteristics taken alone is a sufficient guarantee for considering a given organism as the gonococcus, but together they give as nearly absolute a criterion as is possible without the culture and the reinoculation of a healthy urethra. (*Medical News*, December 3, 1898.)

KIDNEYS.—Malformations and Displacements.

Dr. David Newman thus classifies these conditions:—A. *Displacements without Mobility*.—I., congenital displacement without deformity; II., congenital displacement with deformity;

III., acquired displacements. B. *Malformations of the Kidney.*—I., variations in number: (1) Supernumerary kidney; (2) single kidney, (a) congenital absence of one kidney, (b) atrophy of one kidney; (3) absence of both kidneys. II. Variations in form and size: (1) General variation in form, lobulation, &c.; (2) hypertrophy of one kidney; (3) fusion of two kidneys, (a) horse-shoe kidney, (b) sigmoid kidney, (c) disc-shaped kidney. C. *Variations in Pelvis, Ureters, and Blood-vessels.* (Glasgow Hospital Reports, 1898.)

MORPHINE IN BRIGHT'S DISEASE.

Dr. Osler writes concerning uræmia: For the restlessness and delirium morphine is indispensable. Since its recommendation by Stephen Mackenzie I have used this remedy extensively, and can speak of its great value in these cases. I have never seen ill effects or tendency to coma follow. Dr. Ringer entirely confirms these statements. He finds that morphine, hypodermically employed, is of conspicuous benefit in uræmic dyspnœa and in uræmic asthma. But of course dyspnœa due to dropsy of the lung or fluid in the chest is not benefited. Also the headache and sleeplessness of uræmic patients can generally be removed. Dr. Ringer has not employed this treatment in uræmic convulsions or coma, but has largely used it for other uræmic troubles, and is certain that it may be employed in these cases, without risk and with even prospect of benefit. (From abstract in Medical Record, January 7, 1899.)

NEPHRITIS, STRONTIUM IN ACUTE.

Dr. J. M. da Costa (*Dunghison's College and Clinical Record*, December, 1898), in a clinical lecture delivered at the Pennsylvania Hospital, said that in a case of acute nephritis he had found, from experience, the following treatment to be eminently satisfactory. He gave pilocarpine, hypodermically, every two hours, until he secured free action from the skin. If preferred, the pilocarpine might be given by the mouth; but he preferred, in these cases, to give the first dose hypodermically. In addition to this, he gave the lactate of strontium, fifteen grains at a dose, four times daily. This drug was one of the most efficient, non-irritating diuretics that we possessed; in addition, he was a believer in dry cupping over the kidneys, and in the use of hot vapour baths. There were three drugs in acute nephritis which, to his mind, stood out with considerable sharpness above all others for efficiency—pilocarpine, digitalis, and strontium. (New York Medical Journal, January 28, 1899.)

URÆMIA.—Lavage in.

With a view of diminishing the sources of intoxication, Huchard recommends the employment of three forms of lavage. A great number of the toxins of uræmia form in the stomach, the intestine, and the blood; he therefore employs three lavages—one of the stomach, one of the intestine, and one of the blood. He urges that we do not delay the use of these until the appearance of convulsions, coma, and Cheyne-Stokes respiration. It may then be too late. Where the patient has hyperchlorhydria, the stomach contains powerful toxins, and, if it is dilated, retains these. The indication then is to evacuate these by lavage. It is considered that intestinal antiseptics do not do much in the way of counteracting intestinal toxins. Huchard therefore advises the employment thrice a day of an intestinal lavage, whereby $3\frac{1}{2}$ pints of boiled water, containing 7 per cent. of chloride of sodium, is injected into the bowel. The introduction of saline solution directly into the veins is, of course, a dangerous and difficult operation, and should not be needlessly employed, but the introduction of 10 ounces of this solution twice a day acts very well in cases of acute toxæmia. By the employment of these three lavages M. Huchard maintains that he has attained excellent results in the treatment of uræmia, better than those which have resulted from the employment of emetics and purgatives, and better than those following the continual use of intestinal antiseptics. (*Medical Age*, April 25, 1899.)

Uræmia.—Pilocarpine in.

Finally, a word as to pilocarpine in uræmia. Originally heralded as a remedy for uræmia, it has at last fallen into deserved disuse, for while it sweats the patient it lowers circulatory integrity and so indirectly aids in producing that most to be dreaded complication, pulmonary œdema. Further, it also tends to fill the bronchial tubes and all the air-passages with liquid secretion, and so hastens the increasing dyspnoea and cyanosis. I believe that pilocarpine is contra-indicated in uræmia as a rule, and absolutely harmful in any case in which the heart is impaired or the lungs not normal; and what cases of uræmia are lacking in these two objections? In eclampsia, which is, after all, a form of uræmia, obstetricians seem as a unit against its use. (From Dr. Hare's paper on Errors in Therapeutics in the *Therapeutic Gazette*, January 16, 1899.)

URETHROTOMY, INTERNAL.

I have now performed internal urethrotomy in several hundreds of cases without a death, though many have caused me anxiety from fever, hemorrhage, temporary suppression of urine, &c.

The results have, in the vast majority of cases, been thoroughly satisfactory, and in only a very few instances has a second operation been necessary. It is true that the vast proportion of my experience has been gained in India, and it may be objected that the results obtained in India do not apply to this country. I will, therefore, mention that during the period of about two and a half years that I have been in active practice in London I have performed internal urethrotomy in 87 cases, viz., 23 in private and 64 in hospital practice, with thoroughly satisfactory results. I regard internal urethrotomy, when properly performed, as one of the most useful and successful operations in surgery, and do not think that the gloomy future foretold for it by Mr. Myles will at all be realised. (From Mr. P. J. Freyer's paper in the Medical Press and Circular, December 21, 1898.)

GENERAL SURGERY, AND AFFECTIONS OF THE BONES, JOINTS, &c.

ADRENAL EXTRACT AS A HÆMOSTATIC.

It has been demonstrated physiologically that extract of the suprarenal body is capable of causing contraction of the smaller arteries and increasing the vascular tension, and such a glandular extract has been employed therapeutically in the treatment of a number of morbid states attended with vasomotor ataxia. The extract has also been applied topically in ophthalmic and nasal practice for the reduction of hyperæmia, and it has been found to control primary and secondary hemorrhage and to increase the anæsthetic effect of cocaine. Lermite (*British Medical Journal*, February 25, 1899, p. 467) reports its successful employment in a case of persistent intermittent epistaxis of long standing in a boy of six, following diphtheria. On examination of the nasal cavities the only abnormality found was a dilated and angiomaticous condition of the vessels. Pledgets of cottonwool saturated with a 5 per cent. solution of cocaine were introduced into each nostril and left *in situ* for five minutes. On withdrawal of these, similar pledgets soaked in a saturated solution of boric acid, containing five grains of adrenal extract to the ounce, were inserted and left for the same time. The applications were made on alternate days for three weeks, then every fourth day for three weeks more. The immediate effect upon the mucous membrane was to produce a condition of ischæmia, and the epistaxis ceased. (*Medical Record*, May 20, 1899.)

AMPUTATIONS, PRIMARY, DURING SHOCK.

Experience has increased my inclination to hold my hand. No doubt each case must be judged on its merits. So far as I have been able to come to any guiding conclusion, it is that in cases where the injury is in itself probably fatal no operation should be performed. It is often said that "operation gives the only chance." I am, on the contrary, more and more convinced that it often destroys any faint prospect of survival the patient has. It used to be taught, and perhaps still is, that during profound shock amputation has no further depressing influence, but this I cannot bring myself to believe. At any rate, the anæsthetic, even if ether be used, is followed by depression. Amputation is rarely necessary for the arrest of bleeding, and if a patient survives even a few hours the operation can be performed with greater chance of success, while if he dies almost immediately the surgeon is saved an operation which he cannot help feeling was of no benefit to the patient, and the performance of which under these circumstances must always be a cause of regret. The old advocacy of primary amputation was based upon the terrible mortality of secondary, which was explained in a wrong way because sepsis was not recognised. I fear that some surgeons are still guided by the old rule, forgetting that it was based on conditions no longer existing. Nevertheless, few surgical decisions require more calm and experienced as well as rapid judgment, and give more anxiety, than in many cases the election between primary amputation and delay. (The above is taken from Dr. Fleming's paper in the Glasgow Medical Journal, April, 1899.)

ANEURYSMS, EXTIRPATION OF.

The chief methods of extirpation employed were : (1) The old operation of opening the sac, turning out the clots, and securing the artery above and below ; (2) the old operation plus the removal of the sac by dissection ; and (3) the removal of the sac after the artery had first been tied above and below. The last method, slightly modified, as in the author's case, by dividing the proximal artery between two ligatures, dissecting up the sac, and finally tying the distal vessels, was submitted as the ideal one. The conditions most favourable for extirpation appeared to be : (1) Where there is insufficient room to apply a ligature to the artery on the proximal side, or where a proximal ligature is attended with great risk, as ligature of the innominate for subclavian aneurysms ; (2) where a number of large vessels communicate with the sac ; (3) where other measures have failed to cure the aneurysm ; (4) where the aneurysm, as in the popliteal artery, has become diffused, or rupture of the sac or

gangrene of the limb is threatened ; (5) where the setting free of emboli, as in carotid aneurysms, would be attended with risk of cerebral softening. (From Mr. Walsham's remarks in the *British Medical Journal*, March 4, 1899.)

BURNS AND ULCERS.—Treatment of.

H. A. Richy (*International Journal of Surgery*, April, 1899) says that for some time he has been interested in testing the properties of picric acid. He says: Several months ago a preparation was brought to my attention which contained picric acid as one of its active ingredients, together with formaldehyde and other efficient antiseptics and analgesics. From this combination I have derived so much better results than from any one of its constituents alone, that I am constrained to briefly report my experience. One of the most striking properties of this preparation is the prompt relief of pain and itching observed after its application—an effect most grateful to the sufferer. In cases of burns and recent ulcers it also promoted rapid healing, while in chronic ulcerative conditions it proved an excellent analgesic and a very serviceable auxiliary to other measures. The only objection to the remedy occasionally encountered is staining of the skin ; but while this is disagreeable in a few cases, it is more than compensated for by the feeling of comfort to which it gives rise. (*Medical Age*, April 25, 1899.)

CANCER.—Treatment of Inoperable.

The following are Dr. W. B. Coley's conclusions :—(1) The mixed toxins of erysipelas and bacillus prodigiosus have an inhibitory action upon the growth of malignant tumours of whatever variety. (2) This influence is far more marked in sarcoma than in carcinoma, and differs very markedly in the different varieties of sarcoma, being most pronounced in the spindle-celled variety and least in the melanotic. (3) A considerable number of inoperable sarcomata, the correctness of the diagnosis of which is beyond question, have entirely disappeared under this method of treatment. (4) A large proportion of these cases have remained free from recurrence more than three years after treatment, a period which has generally been accepted as of sufficient length to justify their being regarded as permanent cures. (5) The action of the toxins upon sarcoma must be regarded as a rapidly progressing necrobiosis with fatty degeneration. This action in no way resembles that of a local escharotic, but is rather specific in character, exerting its destructive influence upon the tumour tissue when injected subcutaneously at a distance, as well as when introduced locally. (6) This method of treatment is attended with some risk unless

certain precautions are taken. These risks are :—(a) Collapse from too large a dose, especially when injected into a very vascular tumour ; (b) pyæmia from insufficient care as regards asepsis, especially in the presence of a granulating or sloughing surface. That these risks are slight is shown by the fact that in upwards of 200 cases of malignant tumour treated personally, death occurred in but two as a result of the treatment. (7) The use of small doses of the toxin for a short time after primary operation as a prophylactic measure, theoretically, has much to recommend it. (8) The action of the toxins upon sarcoma, as shown by clinical results, is in strict accord with the known action of the living streptococcus of erysipelas. Hence, the method rests on a perfectly logical and scientific basis. (9) The toxins, to be of value, must be prepared from highly virulent cultures of the streptococcus of erysipelas. (The Practitioner, April, 1899.)

COCAINE.—Operations under.

In his surgical clinics, Dr. Rudolph Matas, of New Orleans, performs extensive operations under cocaine analgesia, using Corning's method. Recently a modified Pirogoff amputation was done, the case being one of a frost-bitten Chopart stump. The great sciatic was exposed a little above the popliteal space, and injected directly with cocaine solution. Injections were also made in the course of the internal saphenous nerve in the lower third of the leg. The solutions varied in strength from 2 per cent. (Schleich formula) to 1 per cent. The operation was absolutely without pain. Earlier in the session the ring and little fingers of one hand were removed for epithelioma, by the same method. The median, ulnar and musculospinal nerves were exposed in the vicinity of the elbow-joint and injected with cocaine solution. The same solutions were employed as in the foot case, in both cases a constrictor was applied above the cocainised area ; the result was equally good. These and other cases are to be reported in full in the future. (Journal of the American Medical Association, April 29, 1899.)

EPISTAXIS.

All that I have found necessary has been to fashion with a pair of scissors a dry plug of prepared sponge, in size and length comparable with the little finger of a 12 year old boy. This should be carefully soaked in boiled water, to free it of grit, squeezed dry to free it of unnecessary fluid, and inserted its full length, gently, along the floor of the bleeding nostril. No styptic is necessary ; it would be needlessly irritant. The expansive pressure of the soft sponge against the bleeding site,

increased by the coagulation of a few drops of blood in its interstices, will check the bleeding at once. Remove it in twelve hours. Under no circumstances let it remain longer than twenty-four. Melted vaseline containing 5 per cent. of carbolic acid, applied with a medicine-dropper in liberal quantities, is the only local treatment called for afterwards. (From Dr. Cornick's paper in the *Journal of the American Medical Association*, March 25, 1899.)

MALIGNANT DISEASE.—Toxin Treatment of.

Mr. Battle presented before the Medical Society of London (*Lancet*, November 19, 1898) a man who had been treated with Coley's fluid for inoperable sarcomatous growths of the shoulder. Microscopic examination of excised sections showed that the growth was composed of spindle-cells and large cells. After three months' treatment no trace of the tumour was left. Mr. Mansell Moullin, commenting on the case, congratulated Mr. Battle on having shown the first authentic case in England of dispersion of tumour by Coley's fluid. He himself had had three cases, but under such circumstances that the diagnosis could not be confirmed by the microscope. In the case under discussion, however, he had seen the tumour and the secondary growths. He had also examined the microscopic sections, and he could not conceive that the tumour was anything but a sarcoma. (*Medical News*, December 10, 1898.)

NIRVANIN: A New Local Anæsthetic.

Luxenburger (*Munchen. Med. Woch.*, January 3, 1899) has tested a newly-discovered local anæsthetic which is chemically related to orthoform, and which bears the name diethylglycollamidooxybenzoesauremethylester, but which he calls nirvanin for short. He has found a 2 per cent. solution to work best in practice. It produces in five to ten minutes an anæsthesia which lasts for twenty minutes, and which is sometimes followed by an unpleasant burning and pricking, although the drug has no disturbing effect on the healing of the wound. It has the advantage over cocaine of being slightly antiseptic, so that solutions even of the strength of $\frac{1}{2}$ per cent. will keep sterile. If one prefers to sterilise it the solutions may be boiled without injury. (*Medical News*, March 11, 1899.)

PATELLA.—Operative Treatment of Fracture of.

Dr. Porter made the following remarks:—I am not by any means prepared to say that a recent fracture of the patella should be always wired, but I must say that my experience with wiring has been such as to lead me very strongly to lean in that

direction, where the operation can be done by thoroughly modern methods, that is, where one can be very sure of his asepsis. I have now done ten, and they have all been very successful indeed, and have never given me any worry from the first day. In talking to the students about it I have said the next one will probably go wrong, because it must fall to the lot of every one to have ill luck ; at the same time, I have felt more and more impressed from time to time that, under suitable precautions, the operation should be done. (From Dr. Porter's paper in the Boston Medical and Surgical Journal, March 2, 1899.)

SPINAL CARIES.—Calot's Treatment of.

Lange, of Munich (*Wiener Klinik*, 1 Heft, 1899) holds the opinion that Calot's treatment of Pott's curvature by forcible straightening of the spine is, in the majority of cases, open to serious objection. Certainly such treatment, if applied by skilled hands, is not attended with much risk to life, and the early results are in most cases decidedly promising ; but the author states the improvement supposed to be gained by suppressing the curvature will not stand the test of time. The large gap formed by separating the remains of the carious vertebræ is occupied at first by blood or pus, and subsequently, either by tuberculous granulations in weakly subjects or in the most favourable conditions, by fibrous tissue. It has still to be proved, the author holds, that such a gap is ever occupied by new bone. The straightened spine may acquire a certain degree of stability in consequence of osseous fusion of the arches and processes of the diseased vertebræ, but the back will always remain very weak at the seat of the old disease, and be subject to fracture from slight injury, and to the risk in such fracture of serious, and it may be fatal, compression of the cord. The only class of cases in which, according to Lange, Calot's treatment is indicated is that of angular curvature associated with persistent paralysis of the lower limbs. (From abstract in British Medical Journal Epitome, March 18, 1899.)

SUBSTITUTES FOR COCAINE: Scale of Efficiency.

Dr. Schnitt (*Deutsche Medizinisch-Zeitung*, January 26, 1899), as a result of numerous experiments, has devised the following scale :—(a) Rapidity of anæsthesia : tropacocaine, holocaine, cocaine, eucain A and B, orthoform. (b) Duration of anæsthesia : orthoform, cocaine, eucain B, eucain A, holocaine, tropacocaine. (c) Intensity : holocaine, tropacocaine, eucain B, eucain A, orthoform. (d) Analgesia of inflamed eyes : holocaine, tropacocaine, eucain B, eucain A, orthoform. (e) Mydriasis : cocaine, tropacocaine, eucain A, eucain B, holocaine. (f) Ischæmia :

cocaine, tropacocaine, eucain A, eucain B, holocaine. (*g*) Dilatation of blood-vessels : eucain A, eucain B, tropacocaine, holocaine. (*h*) Irritation : orthoform, eucain A, holocaine in strong solution, cocaine, eucain B, holocaine (weak), tropacocaine. (*i*) Antiseptic effect : orthoform, holocaine, eucain B, tropacocaine, eucain A, cocaine. (*j*) Toxic properties : holocaine, cocaine, eucain A, tropacocaine, eucain B, orthoform. (Medical Record, March 11, 1899.)

TENDON RE-IMPLANTATION.

Mr. Horrocks Openshaw thus concludes :—(1) All cavus, equinus, spasm, and shortening of tendons ought to be previously cured. (2) Strict asepsis of the limb must be secured. (3) The tendons should be as little disturbed as possible. (4) The parts exposed should be kept warm with lotion—say, 1 per cent. carbolic acid. (5) As large an area of each tendon as possible should be denuded of teno-synovial membrane. (6) The wound should be dressed antiseptically and the foot immobilised for two or three weeks. The method of attaching the tendons together was most important. Unless they were firmly joined the benefit of the operation was lost. Possible untoward results were :—(1) Over-correction. (2) Sloughing of tendons. (3) Suppuration with failure of union. (4) Stitch abscesses. Sloughing arose from too much interference. Suppuration and stitch abscesses from defective suture material. Stout cat-gut he believed to be the best. Goldthwait's operation of insertion of the sartorius into the tendon of the quadriceps for palsy of extensors of the knee must not be overlooked. Very good results were claimed for it. He had seen one case in which there was distinct improvement despite the occurrence of stitch abscesses from the use of silk. He thought this operation would be more extensively resorted to ere long. (Medical Press and Circular, December 28, 1898.)

AFFECTIONS OF THE SKIN, &c.

DERMATITIS, BLASTODERMIC.

(By Dr. Robert Hessler.) A description of a case in the practice of the author is given. A healthy man was slightly cut in the neck by a barber while shaving. The wound healed in a few days, followed by the development of a small nodule, which remained in a stationary condition for nearly three months, when it suppurated. The pus contained no bacteria but yeast-cells were found, and similar organisms developed in culture tubes. The yeast was obtained in pure culture from the

beginning ; it grows readily in all ordinary culture-media, and without the formation of carbon dioxide. In the course of time and under certain conditions a higher development takes place—the characteristic fungus form appears. In the pus the yeast-cells were found chiefly in the interior of the corpuscles ; they were in the budding stage. In size they are as large as a nucleus of a polynuclear leucocyte, from which they can readily be distinguished on appropriate staining. Experiments are being carried on to determine the exact botanic position of the organism and its pathogenesis. The abscess, after discharging, healed over in a few days, leaving behind a large amount of scar tissue, large in proportion to the size of the abscess and in comparison to a similar inflammation due to the ordinary pus-formers. Inflammations due to pathogenic yeasts seem to be characterised by their slow evolution and their chronicity. Inoculations on animals are being carried on, but so far the results have been negative. (From author's abstract in the *Journal of the American Medical Association*, April 8, 1899.)

DERMATITIS, GENERAL EXFOLIATIVE.

An interesting discussion on this subject is reported in the *Brit. Journ. Dermat.*, December, 1898, following on a paper by Dr. Walter G. Smith, of Dublin. The conclusions arrived at agreed with those stated by Dr. Smith, that this distressing and sometimes fatal disease does not form a clearly definite species, but that it exists in all degrees of severity, and usually follows several better recognised forms of chronic inflammation of the skin. It was also agreed that in occasional cases the affection starts without previous disease of the skin. Several of the speakers emphasised the serious prognostic significance of disease of the kidney when associated with exfoliative dermatitis. One variety of the disease appears to commence in cases of chronic nephritis. The observation was also recorded of the appearance of "alkaptonuria" in the later stages of one case of the disease. All the speakers agreed as to the necessity of careful discrimination in treatment. The use of arsenic was strongly condemned, and the local treatment by means of properly applied watery or oily applications, or of sedative baths, was approved of. A curious difference of opinion arose concerning the benefits to be obtained from the use of sedative lotions free of oil and of oily applications, some of the speakers preferring the first form of application, others the second. (From Dr. Galloway's abstract in the *Practitioner*, May, 1899.)

ECZEMA.—Picric Acid in.

F. Radaeli (*La Settimana Medica*, February 18) reports the results of a trial of picric acid in different forms of eczema in

Pellizzari's clinic in Florence. The affected part was first freed from scabs, &c., the hair cut as short as possible, and the whole region thoroughly washed with boracic acid solution. When the part had been dried, applications of a saturated watery solution of picric acid were made with pledgets of cotton; then a compress wrung out of the same solution was applied, and over this was placed a layer of cotton wool, the thickness of which was proportionate to the abundance of the secretion. The whole was kept in place by a bandage. The dressing was left on for one or two days. The author points out the special convenience of the picric acid dressing in acute eczemas where there is much "weeping," as it does not require frequent changing. On the other hand, the remedy has the disadvantage that it causes great smarting in the parts to which it is applied. This, however, ceases completely in ten or fifteen minutes, giving place to a sense of relief which is mainly due to the cessation of itching. Details are given of a number of cases (acute eczema of scalp, chronic eczema, diffuse acute eczema, eczema impetiginoides of the face, "varicelloid" eczema, &c.), in all of which the results of the picric acid treatment were satisfactory. (*British Medical Journal Epitome*, March 11, 1899.)

LUPUS.—Tuberculin (T. R.) in.

In the Dermatological Clinic at Cracow, F. Krzysztalowicz (*Wien. mediz. Wochenschrift*, 1899, No. 2) has treated thirteen patients with the new tuberculin; of these cases eleven suffered from lupus, one was affected with tuberculosis of the skin and of the bones, and one had some tuberculous ulceration of the genitals. The amount injected at one time varied from $\frac{1}{500}$ of a milligram to 20 milligrams, and the number of injections in each case varied from 18 to 51. The constitutional reaction was very slight; occasionally the temperature rose somewhat, but it soon returned to normal. The local reaction also at the seat of the disease was not important, and only occurred after large doses. From a careful consideration of the results obtained, it may be concluded that one may always ensure some improvement in cases of lupus, but not a cure. The case with tuberculous ulceration on the genitals showed no improvement. (Treatment, February 28, 1899.)

PRURITUS, SENILE.

Professor Parisot, of Nancy, considering that auto-intoxication plays an essential rôle in the etiology of generalised senile pruritus, has recourse to intestinal antiseptics in the treatment of this obstinate affection. After purging the patient he puts him on milk diet, and prescribes daily doses of half a drachm

of benzonaphthol. This treatment, of which the first favourable results are witnessed at the end of twenty-four hours, rapidly removes the violent and tenacious itching. (Medical Press and Circular, January 18, 1899.)

RINGWORM FUNGUS.

Dr. J. C. M. Given gives a detailed account of his own researches. This consisted of an investigation of 50 consecutive cases met with in the out-patient department of the hospital. His cases were arranged in three clinical groups: (1) Where the patches were rough and scaly and studded with broken stumps of hairs showing a white sheath; (2) patches smooth, with few stumps; (3) cases in which suppuration had occurred. His investigation was to ascertain: (1) If these clinical varieties were associated in any way constantly with either of the three main varieties of the ringworm fungus; and (2) whether the rapidity of cure was in any way related to the variety of fungus present. The microsporon Audouini was found in 39 cases, 85 per cent. Of these, 31 were scaly, 5 bald, and 3 suppurative. The megalosporon endothrix was present in 15 per cent. The megalosporon ectothrix was not found in any scalp case. In all cases of suppuration in the scalp the microsporon was found, including one well-marked case of kerion. When ringworm occurred in several members of the same family the parasite was always found to be the same variety. He found that the ease with which the cases yielded to treatment in no way depended upon the variety of organism present. (British Medical Journal, November 26, 1898.)

AFFECTIONS OF THE EYE, EAR, THROAT, &c.

ADENOID VEGETATIONS.

It is not in every case of this disease that operative interference is needful or desirable. Those of you who, perhaps, make a routine practice of examining the post-nasal space in children consulting you, will call to mind many cases of moderate accumulations of adenoid vegetations with no accompanying bad symptoms whatever—both child and parent being unaware of any such trouble. A postponement of operation is wise in such instances, but the child should be watched, and treatment promptly instituted upon the appearance of any of the well-known symptoms. When any of the before-mentioned symptoms are present, however, the question of treatment becomes imperative, since the hypertrophy is a constant menace to the healthfulness and happiness of the little patient. The

results of operative treatment are often immediately brilliant and almost invariably satisfactory in the end. Now and then recurrences do occur, necessitating other operations, and occasionally alarming hemorrhage follows, but, as a rule, the removal by operation is devoid of danger, and should be made as thorough as possible. (From Dr. Calhoun's paper in *Laryngoscope*, March, 1899.)

EYE SYMPTOMS IN HYSTERIA.

(1) Most cases of hysteria present well-marked, easily-detected eye-signs and symptoms. (2) A few ocular symptoms, such as reversal of the relation of the colour-fields and the field for white, the tonic form of blepharospasm, spasm of accommodation and convergence, and pseudo-paralytic ptosis, may be regarded as pathognomonic of hysteria. (3) Defects of vision (in the absence of refractive errors, accommodative anomalies, and fundus lesions) are, generally speaking, hysterical if accompanied by photophobia and any form of blepharospasm. (4) No examination of a patient for hysteria should be regarded as complete without considering the condition of his ocular apparatus. (5) Where there is no conclusive external evidence of the neurosis present, the perimeter should be carefully used, the range of accommodation should be noted, and the ophthalmoscope employed. (6) It should always be remembered that ocular hysteria is common in children and men. (7) Organic disease (traumatism especially) of the eye may accompany purely functional disturbances of that organ. (From Dr. Wood's paper in the *American Journal of Medical Sciences*, January, 1899.)

EYE, SYPHILIS OF.

Beginning with those of the eyelids, Dr. Charles S. Bull described the various syphilitic lesions of the eye and its appendages. In speaking of corneal disease he mentioned four different forms, namely, (1) parenchymatous keratitis, which is always accompanied by iritis; (2) keratitis punctata, in which suppuration never occurs; (3) a later stage of the above, in which cloudiness of the cornea is met with; (4) gummatous keratitis. All these affections belonged to the later stages of syphilis. For our knowledge of the condition of the cornea in inherited syphilis we were more principally indebted to Jonathan Hutchinson, and the presence of interstitial keratitis in connection with the Hutchinson notched teeth was universally regarded as pathognomonic of hereditary syphilis. Iritis might be of three varieties, plastic, serous, or gummatous. The only one which was characteristic of syphilis was iritis gummosa. The prognosis was generally good in the serous variety, but was doubtful in

the gummatous. With the hope of securing as good a result as possible the most prompt and energetic anti-syphilitic treatment was called for. (Boston Medical and Surgical Journal, April 6, 1899.)

GLAUCOMA, PREMONITORY STAGE.

We must recognise in most cases, mainly of the non-congestive type, a stage in which attacks of obscuration, &c., occur—the so-called prodromatous attacks. Although some advocate operation in this premonitory stage of glaucoma, this is hardly justifiable. In not a few cases, indeed, many years may elapse between the first and second stages. The proper line of treatment to adopt where undoubted glaucoma prodromata are met with, is first of all to determine as far as possible the conditions under which these symptoms develop. Often it is found that they appear when the individual is exhausted or hungry, and that they pass off after a sleep or a meal. Sometimes, and particularly in nervous individuals, they are started by any undue excitement or exertion. In each case the patient should be cautioned to avoid as far as possible the particular exciting conditions. In addition to this, however, he should be given a myotic, which in most cases will quickly relieve the symptoms. Solutions of eserine or of pilocarpine are those most frequently used for this purpose. In general it is advisable not to use these myotics in too strong solution. From 1 to 2 grs. to the oz. is sufficient; and, on the whole, the preference should, I think, be given to pilocarpine. In cases where premonitory glaucoma is at all frequent, it is well to advise the patient to have his pilocarpine drops always at hand. In that case, too, the solution should be made up with some antiseptic, such as boracic acid or corrosive sublimate, and only procured in small quantities at a time, so that it may be fairly fresh. The drops may even, in many cases, be advantageously used before the symptoms come on at all. In this way the attacks may be averted where the patient has learnt by experience to know the conditions which are liable to give rise to them. Gentle rubbing of the eyes is often also useful in dispelling the symptoms when they first come on. (From Mr. G. A. Berry's paper in the Edinburgh Medical Journal, April, 1899.)

MYDRIATICS AND MYOTICS.

Dr. Bradfield thus summarises his conclusions:—(1) Mydriatics and myotics should never be used without clear indications. (2) Mydriatics should be used in iritis, cyclitis, choroidoretinitis, and keratitis, and when the pupil is small or not already dilated, after severe injuries to the ciliary region. (3) Mydriatics should never be used where the pupil is already dilated, or where there

is any tendency to increase of intra-ocular tension, again excepting cocaine. (4) Myotics should always be used when there is a tendency to increase of intra-ocular tension and the pupil is dilated. (5) Myotics should not be used where there is ciliary congestion and pupil already contracted. (6) In threatened or perforating ulcers of the cornea, if central, mydriatics should be used; if peripheral, myotics. (7) For dilating pupil for ophthalmoscopic examination use homatropine, 1 to 3 per cent. solution, as the effect soon passes off. (8) Cocaine being an exception in the way of operation, may be used to dilate the pupil where there is a shallow anterior chamber, or even high tension, in old people when needed for ophthalmoscopic examination. (9) Never use atropine in glaucoma. (Medical Age, April 25, 1899.)

OPHTHALMIA, GONORRHOÆAL.

Examinations for gonococci should be made every second day, and an eye should not be regarded as safe, or the child allowed to come into contact with its mother, until a full week has elapsed, in which absolutely no gonococci are found under the microscope. It must not be forgotten that, even with an apparently inflamed eye, the sclera being white, the cornea glistening, and the lids scarcely swollen, gonococci may be present. The physician should not be too conservative as to the length of quarantine in a convalescing ophthalmia. (From Dr. Edward S. Peck, January 21, 1899.)

OPHTHALMIA NEONATORUM.

Dr. P. C. Jameson thus sums up his conclusions:—(1) The absence of external evidence of specific discharge from the birth canal cannot be relied upon as an indication that specific infection does not exist, as infection may be present without external evidence. (2) Reliance upon the condition of the infant's eyes as indicative of a coming attack of gonorrhœal conjunctivitis, and consequent postponement of treatment until symptoms appear, are apt to be deceptive, as during the period of incubation the gonococcus may to a certain extent lie dormant, clinical symptoms may be masked, and precipitation of the disease itself may be abrupt. (3) The objections to nitrate of silver as a prophylactic and remedial agent do not seem to be clinically sustained; on the contrary, it possesses ideal properties for counteracting this disease. (4) The discrimination between private and hospital patients in the practice of prophylaxis in this manner is thoroughly inconsistent, as the disease is common to both classes. (5) The comparatively small number of cases seen in individual practice, and the subsequent successful

treatment of them, cannot be regarded as a contraindication to the general adoption of careful prophylaxis, as the aggregate number of cases of total and partial blindness resulting from this disease is large. (Medical Record, March 4, 1899.)

OPHTHALMOSCOPE IN GENERAL ARTERIAL DISEASE.

By R. Marcus Gunn (*Trans. of Oph. Society of the U.K.*, 1898). Mr. Gunn describes certain ophthalmoscopic changes due to an affection of the retinal arteries, and which he holds are indicative of similar changes in the general arterial system, deducing numerous case reports in support of this. The changes noted in the eye are, an irregularity in the breadth of the arteries, they being contracted at one part, and dilated further on. The arteries are also very tortuous, their light reflex is narrow, and exceptionally bright, especially in the secondary and tertiary branches, they also lose in transparency so that where they cross a vein, the underlying vein can not be seen through them, the opposite condition holding when the vein crosses over the artery. Of most importance, however, is the fact that where the diseased artery crosses a vein, it impedes the venous flow. There is also often a slight œdema of the retina, and sometimes hemorrhages. The explanation of these symptoms is an altered condition of the coats of the arteries, an arterio-sclerosis, with the accompanying rigidity. The result of the impeded circulation, is diapedesis, and hemorrhages. Old age favours these changes, but certainly alone does not produce them. The gouty diathesis and chronic alcoholism are strong etiological factors. Glaucoma, thrombosis, embolism, cataract and Tay's choroiditis are prone to occur in these vascular conditions, but the point of greatest clinical significance is the association with more general arterial disease, especially in the brain and kidneys. (Montreal Medical Journal, 1899, p. 223.)

RETINITIS, ALBUMINURIC, IN A CHILD.

Mr. Arnold Lawson and Dr. Sutherland read a further note on a case. A girl, aged 12 years, was exhibited before the Ophthalmological Society last year with advanced albuminuric retinitis in both eyes, and symptoms of chronic interstitial nephritis. Two weeks after she was shown to the society she had uræmic convulsions and absolute blindness, which lasted some days. During the next few months she had headache and vomiting, but no more uræmia. In September she was readmitted to the hospital for cardiac failure; death followed. The whole duration of the illness had been a year and three-quarters. Post-mortem both kidneys were found granular; the heart was hypertrophied, and

there was a cerebral hemorrhage into both ventricles. In the retina exudation of the usual type was found at the central region. Congenital syphilis was suggested as a cause. (*British Medical Journal*, March 18, 1899.)

THYROID TREATMENT IN EAR DISEASE.

This treatment of dry middle-ear catarrh, from which much at one time was expected, has been critically examined by MacLeod Yearsley (*British Medical Journal*, October 22, 1898) in a series of 21 cases (4 males and 17 females). In no single instance was he able to report any relief, and in some cases a distinct retrogression in the amount of hearing power was noted. The ages of his patients varied from 19 to 62, and the duration of the affection from one to three years. Fifteen of the patients suffered from sclerotic catarrh, three from non-suppurative middle-ear catarrh with ossicular ankylosis, and three from ossicular ankylosis secondary to previous suppurative catarrh. Eighteen cases were under treatment for from six to eight weeks, whilst the remaining three refused to continue the treatment after from a three to four weeks' trial. The system of treatment adopted was that recommended by Bruhl. Sufficient time has not yet elapsed to note the results of Malherbe's operative method of treating dry catarrhal affections of the middle ear. At the present moment opinions seem to be much divided as to its probable efficacy. (*Practitioner*, May, 1899.)

OBSTETRICS AND GYNÆCOLOGY.

ABDOMINAL SECTION.—After-treatment of.

The usual practice is for patients to receive nothing but sips of hot water for the first forty-eight hours, then milk and weak tea. This practice is not followed slavishly, as frequent variations have to be made, the patients in some cases getting stimulants and Valentine's extract of beef as soon as they can take it. *Pain*: I employ codeina tabloids or phenacetin. Two tabloids of codeina, to be followed every second hour by one tabloid, frequently give much relief. Phenacetin is given in 10 grain doses. I do not absolutely deprive patients of the soothing influence of morphine. I believe intestinal adhesions, if they are going to take place, form inside a few hours; consequently, if a patient suffers much pain—say 12 hours after operation—I give $\frac{1}{4}$ gr. morphine hypodermically. *Flatulence*: If not relieved by a turpentine enema or carminatives, I found it quickly benefited by touching the abdominal walls lightly with a

Paquelin's cautery, especially where there is meteorismus. *Vomiting*: If the ordinary routine methods failed the stomach was washed out, and three cases of persistent ether vomiting were at once stopped by the patient drinking a copious draught of cold water. *Purgatives*: Purgatives are given the second morning after the operation; a saline mixture, such as mist. rosæ or mist sennæ co., is preferred. Sometimes calomel (3 grains), to be followed by a Seidlitz powder, is selected. When the bowels did not act I ordered a turpentine enema. *Abdominal Belts*: I have given up for years the use of abdominal belts after abdominal sections; herniæ are best prevented by proper suturing. An abdominal belt, to be of any use, must increase intra-abdominal pressure—an infallible way to find the weakest spot. (From Dr. A. Smith's paper in Dublin Journal of Medical Science, February, 1899.)

BREECH CASES, WITH UPWARD DISPLACEMENT OF ARMS.

I recently attended a case of labour with pelvic contraction, the child presenting transversely. Turning was resorted to and the legs brought down. The uterus was carefully followed with the hand in its descent, and as the pulsations of the cord were only imperceptibly felt traction was made on the legs in the axis of the parturient canals. The arms, however, became displaced upwards and could not be brought down by the usual digital method. I therefore knotted a corner of a soft handkerchief and passed it round the shoulder which lay anteriorly, it being most accessible. Then, having pushed the handkerchief along the arm to the elbow, it was kept there by a finger of the left hand whilst with the other hand I exerted traction on the handkerchief in a direction obliquely across the anterior aspect of the child's body. In this way I managed to pull down the arm without difficulty. The other arm was then easily brought down with the fingers. I consider the method freer from danger than the use of a blunt hook. The danger of causing fracture of the shaft of the humerus or dislocation of the head of that bone is to be avoided by (1) keeping the handkerchief at the elbow by means of the finger, and (2) by pulling in a direction obliquely across the anterior surface of the child's body. The "lacque" has been mentioned by authorities as useful sometimes in bringing down a breech, but I have not noticed anything of the kind mentioned as of use in bringing down the arms, hence my reason for publishing the case. (Dr. T. M. Callender's note in the British Medical Journal, June 10, 1899.)

CARCINOMA OF THE CERVIX UTERI.

Dr. More Madden says that in 31 instances in which the cervix was amputated there was no mortality consequent on the operation ; in one of these, however, the disease returned in the uterus four months subsequently ; in 5 cases it returned there or elsewhere within a year ; in 2 within two years ; in 1 within three years ; and in 1 nearly four years after operation. But, on the other hand, in 10 cases there was no return within a period of four years, and in some there was no recurrence ten years after the amputation of the cervix ; in 5 cases the information was limited to two years, and in 6 to one year, and indicated no return of cancerous disease within these periods. These results, immediate and remote, may be contrasted with those obtained by hysterectomy for cancer, whether by vaginal or abdominal methods. (Medical Press and Circular, May 31, 1899.)

CARCINOMA UTERI.—Early Diagnosis in.

E. J. Ill (*Amer. Year Book of Med. and Surgery*) says that early diagnosis from subjective symptoms belongs to the difficult problems. Exhaustive physical examination is necessary to confirm the suspicion. The ulcerating epithelioma of the cervix is easily known by its distinct, hard edges, the hardness extending somewhat beyond the ulcerating portion. The bottom of the ulcer is remarkably hard, but so friable that a curette will easily remove a large piece. A tenaculum will take no hold in it. Through the speculum it appears as covered by a dirty grayish matter. The ordinary erosion, on the contrary, appears of a red colour, has no infiltration of its edges, and is smooth and velvety to the touch. The curette will make little impression on it, except to remove a very superficial layer. The syphilitic ulcer will be recognised by its general symptoms. Carcinoma of the body cannot be diagnosed in its earlier stages by palpation. When carcinoma of the cervical canal exists it will be seen only when the cervix is dilated and the curette removes the friable masses. By palpation the cervix is found enlarged, and hard, deep-seated nodules are felt. (The Medical Dial, May, 1899.)

CARCINOMA UTERI TREATED BY VAGINAL HYSTERECTOMY.

From large experience, we recommend as a method by which the entire internal genitals, together with the entire broad ligaments, can be extirpated per vaginam. This is effected with the aid of clamps, not with ligatures, because with the crushing and necrotising effects of the clamp upon the tissues grasped, we can extend the operation to regions which the ligature cannot reach

or where it must remain ineffectual. This method especially enables us to extirpate by the vagina approximately every carcinoma which is limited to the uterus. If the carcinoma has already spread to the vagina, then during the course of vaginal hysterectomy the posterior vaginal wall can be removed in its whole extent. When the anterior vaginal wall is affected, the bladder should be examined with the cystoscope, an instrument absolutely necessary to the modern gynæcologist. When the carcinoma has spread to the parametria and the uterus is not greatly enlarged in size, vaginal total extirpation is technically possible and therefore indicated. And lastly, in a case of carcinoma of the uterus complicated with tumours or inflammatory troubles of the adnexa, with the proper technique, vaginal hysterectomy can be performed and completed. Only when the enlargement of the uterus caused by the cancer itself or by complication with myoma is so great that not even with the aid of vagino-perineal incisions can the parts be brought out *in toto* through the vagina, is ventral hysterectomy superior to the vaginal method. But such cases of cancer complicated by great size of the uterus are very rare compared with the numerous cases which allow of vaginal extirpation. My results are as follows:—Of 123 cases operated on under the above-described indications, 8 died from the operation; in 48 the operation was done more than five years ago; of these, 13—that is 27 per cent.—have remained well. In other words, with the operation of vaginal hysterectomy performed according to my method, we can count on permanently curing about one woman in four. According to the observations of Bouilly and others, which coincide with my own, we may be sure of a permanent cure if at the end of five years no recurrence takes place. Quite a number of these cured cases presented complications—some with spreading of the carcinoma to the vagina and appendages, others with inflammatory or purulent affections of adnexa or peritoneum. Occasionally fibroid or ovarian tumours complicated the operation. Therefore the fact is established by these statistics, obtained with all possible precautions, that the vaginal radical operation with clamps furnishes excellent permanent results. (From Dr. Theodore Landau's paper in the British Medical Journal, May 27, 1899.)

CURETTING THE UTERUS.

In no form of septic infection arising in the uterus, whether it be confined to the endometrium, the muscularis, or has extended outside of the uterus, or into the system, is curettage indicated, at least not further than to remove the decidual *débris* or dead tissue which has become infected, causing sapræmia by the

absorption of poisonous toxins ; and such patients frequently have a mixed infection by the germs of putrefaction and suppuration. These dead structures can usually be removed with the finger, having dilated the cervix with the finger or a large Wathen dilator. If some of the secundines that are separated by the finger cannot be removed otherwise, they may be scraped out by a dull curette, or pulled out by any form of forceps, being careful not to injure tissue not separated. If the disease is confined to the endometrium, then Nature has thrown out a protecting layer of granulation tissue which prevents further infection. If a sharp curette be used, all the septic matter cannot be removed, and the granulation layer, which is the fortification against further infection, is destroyed ; we may expect within a few days to have the sepsis extending outside of the uterus, and possibly it may have become systemic. If the disease has involved the parenchymatous structures, but has not gone beyond the uterus, curetting is contraindicated because it is a traumatism committed without doing any possible good ; and where the disease has gone beyond the uterus, no matter where it may extend, curetting is positively contraindicated. (From Dr. Wathen's paper in the Medical Age, March 25, 1899.)

CYSTOSCOPE IN THE BLADDER AFFECTIONS IN WOMEN.

Kelly's cystoscopes have been so frequently described, and are generally so well known, that I may leave out their description here. A few practical points regarding the technique, however, may not be amiss. The patient loosens all the clothing about the waist, and is first placed on the table in the lithotomy position. A small glass catheter is introduced into the bladder, and the urine withdrawn and kept for examination if necessary. The bladder is then injected with a 1 per cent. solution of boric acid by attaching the rubber tubing of a graduated glass irrigator to the catheter, and allowing about from 6 to 8 ounces of the solution to flow into the bladder ; the rubber tubing is then detached, and the solution escapes from the bladder through the glass catheter, which has remained *in situ* all the time. This manœuvre is repeated until the returning fluid is quite clear. Then, with a short, flexible catheter attached to a small glass syringe, four cubic centimetres (one drachm) of a 4 per cent. solution of cocaine is thrown into the bladder, some of the solution being injected into the urethra by withdrawing the catheter before the syringe is completely emptied. A pledget of cotton soaked in a 10 per cent. solution of cocaine is introduced into the meatus and left there. The patient is

now placed in the knee-chest position, the pledget of cotton is removed from the meatus, and a No. 8 or No. 10 vesical speculum is introduced into the bladder and the obturator is withdrawn. It is seldom necessary to dilate the urethra prior to using specula of that size. Occasionally, however, in elderly women with marked atrophy of the external genitals, the meatus is very much constricted and unyielding, and it may be necessary to snip with scissors the posterior lip of the meatus before a speculum of that calibre can be introduced. I have always employed a small electric headlight for my examinations, but an Argand burner, or a candle even, properly placed, with a head mirror similar to that used by laryngologists, will give the required illumination. (From Dr. Vineberg's paper in the New York Medical Journal, January 7, 1899.)

DELIVERY, POST-MORTEM.

Langerhaus, in the *Vrtljschr. f. gerichtl. Med.*, Berlin, 1899, Heft 1, describes a case of post-mortem delivery which came under his notice in the mortuary of the Moabit Hospital, Berlin. The girl, aged 24 years, died of phthisis, and the fact of her being pregnant was not noticed during life. When about to commence the post-mortem, the head of a foetus was found to be protruding from the vulva. In subsequently endeavouring to remove the external and internal genital organs with the child *in situ*, the trunk escaped from the maternal passages. The foetus, which was fresh but poorly developed, appeared to be about the eighth month. The placenta was detached and lay in the cervix; the uterus was firmly contracted; the os, however, was soft and widely dilated; the vagina was soft and dilated. There was no injury of any of the parts. The body showed no trace of decomposition, and the intestines, both large and small, were empty and not distended with gas. (Edinburgh Medical Journal, June, 1899.)

ECLAMPSIA DURING LABOUR.

Labour pains having begun, authorities almost universally agree that progress should be hastened by all means compatible with the safety of the mother. Charpentier and Winckel prefer to wait until the cervix is fully dilated or dilatable, but the greater number aid in hastening the progress of labour in various ways. The English school uses hot douches, Barnes bags, and the dilator of Champetier de Ribes, but American operators as a rule prefer the hand for purposes of dilatation, maintaining that usually manual dilatation is successful in accomplishing the desired result safely, in a moderate length of time, and without rupture of the membranes (thus facilitating version). During the second

stage of labour all agree, even the most conservative, that delivery should be completed as soon as possible, by forceps or version, or by craniotomy, if the child is dead. In the third stage of labour moderate bleeding (providing, of course, the patient be able to withstand the loss of blood) should be encouraged by allowing the uterus to remain relaxed, and deep narcosis should be kept up until the placenta has been removed and labour completed. Further treatment of these cases and those of post-partum eclampsia consists in the use of hot saline enemata and such medication as appears to each individual as the most efficacious. (From Dr. George L. Broadhead's paper in the *Medical News*, May 6, 1899.)

Eclampsia, Temperature in.

Gmeiner (*Prager medicinische Wochenschrift*, 1898, No. 48) concludes, from a series of papers upon this subject, that fever always accompanies eclampsia when the attacks follow one another rapidly. The type of fever is remittent, and the temperature goes in many cases to 104° F. and above. Prognosis depends not so much upon the height of the fever as upon its persistence and progressive ascent. (*American Journal of Medical Sciences*, February, 1899.)

FIBROIDS OF THE UTERUS.

Removal of the ovaries for bleeding or rapidly-growing tumours is gradually being supplanted by the operation of abdominal hysterectomy, an operation much more certain in its results, though more dangerous for the moment. This operation had at one time such an alarming mortality as to be quite deterrent. Even yet the death-rate is most undesirably, and perhaps needlessly, high, and it is an operation which, except in the hands of experienced operators, is not to be undertaken without considerable anxiety. The improvements in this operation have been no less remarkable. The ligature of the broad ligaments and uterine arteries, the substitution of the intra- for the extra-peritoneal stump, the complete removal of the whole organ by pan-hysterectomy, and the remarkable results obtained by both foreign and British operators, make this a more thorough and reliable method of dealing with these growths than any. It is further possible, in most cases, to have recourse to this operation when the safer and simpler operation of removing the ovaries has failed to give the desired relief. In a large number of cases, especially when the tumour is of considerable size, removal of the ovaries is an impossibility, and hysterectomy is the only means of dealing with them. We now recognise that the inconveniences and dangers of fibroid tumours do not by any means cease with the menopause; but

I must say that I have no sympathy with the indiscriminate removal of these simple tumours, and I can never conscientiously advise a patient to undergo the risk of hysterectomy unless urgent symptoms, such as rapid growth, mechanical pressure, hemorrhage, or malignant degeneration (which is itself a curiosity) present themselves. (From Dr. Halliday Croom's paper in the *Edinburgh Medical Journal*, December, 1898.)

GESTATION, ECTOPIC.—Symptoms of.

(By Dr. J. E. Janvrin.) The chief symptoms and signs of ectopic pregnancy were: (1) The skipping of one menstrual period; (2) irregular bloody discharges; (3) the discharge of shreds of decidua; (4) slight nausea; (5) slight increase in the areola of the breasts; (6) slight enlargement of the uterus and its displacement towards the unaffected side, while a well-defined globular and semi-fluctuating mass—the pregnant tube—was to be detected on the other side; (7) marked pulsation of the artery of this tube; and (8) intense tenderness in the mass itself. This last symptom, he thought, was always present. He believed the colicky pains were never present until there had been some hemorrhage. The shock was always proportionate to the amount of tearing and accompanying bleeding. Laparotomy was the operation indicated, as it afforded an opportunity for an immediate and positive diagnosis, and, at the same time, for appropriate surgical treatment. In the paper referred to he had called this “the primary operation” in cases of tubal pregnancy. He had not lost any cases of tubal pregnancy in which he had been allowed to operate early. (*Medical Record*, April 29, 1899.)

HEMORRHAGE, HYSTERECTOMY FOR INTRACTABLE UTERINE.

Mr. Bland Sutton, in the *British Medical Journal* of April 8, p. 839, draws attention to cases of persistent uterine hemorrhage which do not yield to the curette, and which are not characterised by any marked naked-eye changes in the uterus. Histological examination, however, shows changes in the uterine wall, and he applies the term “fibrosis of the uterus” to this condition. I have met with two such cases, in each of which I performed vaginal hysterectomy, and as in one of the cases a careful histological examination was made which bears out the views of Mr. Bland Sutton, I have thought that it may be of interest to briefly narrate the cases. The main interest of the first case lies in the result of an examination of the uterus. To the naked eye this organ appeared normal. A careful microscopical examination was kindly made by Dr. Douglas Stanley, pathologist to the Queen's Hospital, whose report, dated November 11, 1897, was

as follows:—I have examined the sections of uterus. The endometrium shows considerable alteration of the epithelial cells, which are round or irregular and proliferative, forming a deep layer, in which are found vessels with poorly-developed walls. Under this there seems to be some fibrotic degeneration of the uterine tissue, and here the vessels show evidence of chronic inflammatory thickening; further away from the mucous surface there seems to be no alteration in the tissues. The uterus after removal in the second case appeared somewhat enlarged, but otherwise no abnormality was visible to the naked eye. No histological examination was made. Both cases recovered. In both these cases the menorrhagia commenced as a sequela of parturition or miscarriage, and they both bear out the views enunciated in the above-mentioned paper of Mr. Bland Sutton that the change in the uterine wall is secondary to "infective chronic metritis." (From Dr. C. E. Purslow's note in the *British Medical Journal*, June 10, 1899.)

INVERSION OF UTERUS, ACUTE.

Carry the hand, which by touch has detected the uterus in the vagina (when it has not been forced outside), quickly into the vagina, grasping the inverted fundus with the thumb and fingers of one hand, at the same time with the other make pressure over the top—cervix—of the inverted uterus through the abdominal wall. Make equal pressure with both hands in the axis of the uterus. In this way the cervix will be passed down over the body, and the body be forced up through the cervix, and the organ will assume its normal relation more quickly than it has taken me to tell it. Allow the hand that is now within the uterus to remain there until there have been some uterine contractions. The hand that is external can, at the same time that it makes downward pressure, make pressure backwards against the aorta, arresting hemorrhage if any there be. If the uterus does not quickly contract while yet the hand is in it, irrigate with a hot sterile salt solution. When once the uterus has contracted the hand may be cautiously removed—cautiously, lest the uterus be again inverted—and continue the irrigation. After there are reasonably firm contractions a bichloride solution, 1 to 4,000, may be used to ensure thorough antiseptis. Final irrigation should be made with the sterile salt solution. (From Dr. Marion's paper in the *Boston Medical and Surgical Journal*, May 4, 1899.)

LEUCORRŒA.—Treatment with the Yeast Fungus.

Prof. H. Landau (*Deut. med. Woch.*, March 16, 1899) has been applying the local antagonistic bacterio-therapy to the treatment of forty cases of chronic leucorrhœa during the last six

months, with "surprising success." The majority were probably of gonorrhœal origin. In more than half of the cases the discharge ceased completely and permanently after one or two injections. It later reappeared in some of the others, possibly from reinfection, but promptly subsided after another injection or two. Most of the rest were objectively and all subjectively much improved. He uses brewer's yeast, fresh every third day, thinned with beer to a thick fluid. Ten to twenty cubic centimetres are injected into the posterior portion of the vagina through a tube, if the hymen is intact, and a tampon inserted and removed in twenty-four hours, repeating the injection in two or three days. No inconveniences of any kind were noticed. He does not venture to decide whether the effect is due to the mechanic crowding out of the germs causing the catarrh, or to the using up of certain substances which they require for their growth, or to the metabolic products of the yeast organisms. He is now engaged in attempts to isolate the active principle of the yeast, and experimenting with kefir and cultures of various non-pathogenic micro-organisms. (Journal of the American Medical Association, April 8, 1899.)

MAMMARY GLAND AND PAROTID GLAND DESICCATIONS IN GYNÆCOLOGY.

John B. Shober (*Amer. Journ. Obst.*, N.Y., February, 1899) advocates the use of mammary gland and parotid gland preparations in the treatment of fibroid tumours of the uterus and in certain forms of ovarian disease respectively. Since he began to use the mammary gland tissue, more than a year ago, he has only operated on one case of uterine fibroid where the pressure symptoms and hemorrhage were too urgent to permit of palliative treatment. He has treated a number of cases, ranging from large multinodular tumours to small subserous nodules, with satisfactory results, the menorrhagia and metrorrhagia ceasing and the tumours diminishing in size. The gland is administered in the form of tablets, each containing an equivalent of 20 grs. of the fresh gland, three to six tablets being given daily. He has also used the parotid gland in the treatment of ovaritis, enlarged, congested, and tender ovaries, ovarian neuralgia, and ovarian dysmenorrhœa, and has obtained better results than by any other form of treatment. Positive results cannot be expected when there is associated disease of the Fallopian tubes, as hydrosalpinx, pyosalpinx, and pelvic inflammatory disease. (Dr. Haultain's periscope in Gynecology, Edinburgh Medical Journal, June, 1899.)

MENSTRUATION, PAINFUL.

Lawrence (*International Journal of Surgery*) concludes as follows: (1) Painful menstruation is not a disease, but merely a symptom found in various pelvic diseases. (2) Those classifications which place it as a disease are misleading, and should be discarded. (3) The physiology of menstruation, a thorough knowledge of pelvic pathology, and a broad, careful habit of study and thorough case-taking are necessary in order that menstrual pain be rightly construed. (4) Many of the cases due to the uterus, tubes, or ovaries may be cured in the early stages by simple means, whereas neglect places them in a position demanding serious operative treatment. (5) Painful menstruation in a sterile patient is strong evidence that there is tubal inflammation with occlusion of tubes. (6) Operative procedures should be reserved for those cases in which there is a positive pathological indication, neurotic and anæmic cases being treated by other and more appropriate measures. (7) As a symptom, menstrual pain is often of such grave import that it should always receive the most painstaking study. If this should be the rule, many patients will be cured without operation. (Medical Record, April 22, 1899.)

NIPPLES, ORTHOFORM IN FISSURES OF.

For the last six months I have employed orthoform in the maternity of the Charité Hospital in forty cases of fissure of the nipples. All the patients without exception experienced almost instant relief. I tried it in four different ways; the powder with wet dressing; the powder in the dry state; and lastly, a saturated alcoholic solution. The first mode of application was employed in 29 cases, and consisted simply in the direct application of the orthoform to the fissure and covering with a compress moistened with a solution of boric acid, with a piece of oil silk over all; the dressing was removed each time the child was put to the breast, and replaced after that function. The dry application was followed in six cases, and differed only from the former by the gauze being applied in the dry state; whilst the alcoholic dressing consisted in pouring four drops of a saturated alcoholic solution of orthoform on the fissures, followed by a dry compress. Each time the patients experienced a slight burning sensation for a few moments, but the operation of nursing was rendered almost painless—especially when the alcoholic dressing was applied. As the effect of the orthoform lasts several hours, it is not necessary to apply it each time the breast is given. One point worthy of mention, in conclusion, is the cicatrising action of orthoform. Under its influence, I have seen the fissures heal more rapidly than with any other dressing. In

the cases above mentioned, the time taken was, on the average, four days without stopping the nursing, whilst with other treatments it took from ten to twelve days, and, moreover, nursing had to be suspended. In short, orthoform seems to me to render good service in the treatment of fissure of the nipples, no matter how extensive, and of all the preparations it is to the alcoholic solution that I would give the preference. Four drops are sufficient to bring about the desired effect in the space of from five to ten minutes. (From Professor Maygrier's paper in the Medical Press and Circular, January 25, 1899.)

OCCIPITO-POSTERIOR POSITIONS.

Three methods of delivery are possible, viz., manual rotation and immediate application of the forceps; forceps without rotation; and podalic version. In skilful hands the first method is probably, under all circumstances, the most satisfactory, and certainly the most scientific, but it is difficult to perform, and rather than make protracted efforts at manual rotation, it would be much wiser to perform version at once. It is my belief, based on actual experience, that in the majority of cases, taking into consideration the safety of both mother and child, the forceps, carefully and skilfully handled, without protracted attempts at rotation, offers the best means of terminating these cases. The amount of traction is a matter of consideration. Only after considerable experience can the safety line in this respect be determined. Traction should only be practised during uterine contractions, and in the interval the forceps should be unlocked and the head pushed back slightly. Continued pressure of the locked forceps, or holding on to them to prevent the head from receding, should never be practised. If good progress follows quite promptly there need be no fear as to an ultimate safe delivery. If great disparity exists between the diameter of the pelvis and the foetal head, or if there be uterine inertia, or if the mother or child seems unable to endure the prolonged strain, or if the condition of the soft parts of the mother makes it probable that great damage will be done, as extensive laceration, &c., then the forceps should be removed at once, and, with the patient completely anæsthetised, podalic version should be performed. It is probably true that there is less danger of laceration in delivery with forceps in anterior positions than in the extraction of the after-coming head in version. In every case attempts should be made at rotation, whether the membranes have ruptured or not. If the liquor amnii has pretty well drained off, then there will be less probability of success, and the forceps may now be applied without rotation. If the pelvis is fairly

roomy, and the foetal head not unduly large or ossified, the accoucheur will be able to bring the occiput down with the head well flexed, and keeping in mind the normal mechanism, assist in the rotation of the occiput down and to the right, and finally bring it out under the pubes through the outlet in almost a normal right anterior position. In three instances I have been able to accomplish this, thereby preventing the extensive laceration of the perineum that must surely occur when the occiput is dragged out in posterior positions. The safety of the child will, of course, depend largely upon the length of time consumed in the delivery, the amount of pressure produced by the forceps, and the degree of adaptation between the head and the pelvis. (From Dr. C. H. Glidden's paper in the Medical News, March 25, 1899.)

PALPATION, ABDOMINAL, IN OBSTETRICS.

(By Dr. A. Pinard). (1) External exploration, known as abdominal palpation or external palpation, is one of the most useful methods of examination in obstetrical cases. (2) This method of examination, known from time immemorial, has been employed advantageously only since the early part of this century, but it is really only in about the last twenty years that it has been thoroughly studied and that its methodical application has enabled us to state that it should be used in every case of pregnancy. (3) Easy to teach, easy to learn and to use, abdominal palpation is the best method for the diagnosis of normal or complicated, simple or multiple, uterine or ectopic pregnancies. (4) The diagnosis of such conditions as triple pregnancy, hydrocephalus, &c., has been made possible only by the methodical use of this measure. (5) During pregnancy it in many cases determines the indications for prophylactic and curative measures. (6) During labour, although often valuable, it is less so than internal examination. (7) During delivery of the placenta it is of equal value with internal manœuvres. (8) After labour it should be the sole procedure in physiological cases, internal exploration being joined to it only in pathological cases. (Medical Record, February 25, 1899.)

PELVIC CONTRACTION, LABOUR IN SLIGHT.

Dr. Haig Ferguson contributed to the Edinburgh Obstetrical Society observations on labour complicated by a minor degree of pelvic contraction in primiparæ and multiparæ. He recounted the case of a non-rachitic flat pelvis in a lady now aged 33, whom he had attended in all her five confinements. The conjugata vera in this case measured $3\frac{1}{2}$ inches. All the labours were at full time; all were vertex cases, and in none was there any malposition. The heads were all large, but none unduly so;

nor was ossification unduly firm in any of them. The uterine contractions were in all the labours vigorous and regular, nor was there any appreciable deviation in the axis of the uterus. The membranes ruptured early in all except the first labour; but the cervix was on all occasions soft, and offered no obstruction. Notwithstanding these points of similarity between the five successive labours, there were considerable differences. In the first two labours the head engaged at the brim either before or shortly after labour commenced; and the labours were comparatively easy. In the last three, on the other hand, there was difficulty owing to failure of the head to engage at the brim. The third and fourth children were born dead; the fifth was stillborn, but easily resuscitated. Dr. Ferguson deduced the conclusion that in such cases forceps should be applied as soon as the cervix had fully dilated, in order that the head might be got past the brim where the only real difficulty occurred. Traction ought to be long continued and gentle, in order to give the foetal head time to mould to the somewhat contracted pelvic bones. (*British Medical Journal*, May 20, 1899.)

PESSARIES IN MODERN GYNÆCOLOGY.

Dr. J. W. Ballantyne (*Scottish Medical and Surgical Journal*, March, 1899), says that the general advantages claimed for the pessary are:—(1) Convenience. All strong supporters emphasise this. An occasional visit to a gynæcologist occupying only a few minutes; frequent vaginal douching which may be required anyhow; and a transitory feeling of uneasiness in the pelvis when the pessary does not fit exactly or has been worn too long, cannot be regarded as sufficient reasons for advising a patient to face the ordeal of a plastic operation with all its inconvenience, expense, and enforced confinement. (2) Efficiency. All advocates of the pessary say that it is effective in relieving symptoms, and some maintain that a permanent cure may be effected in some cases in a longer or shorter time. (3) Safety. Most gynæcologists admit the safety of the ordinary vaginal forms. Others also claim that intra-uterine stems and instruments of the Zwanck type are innocuous; bad results are put down to want of care on the part of the physician or patient. (From abstract in the *New York Medical Journal*, April 1, 1899.)

PLACENTA, ADHERENT.

The following method seems to fulfil all the indications:—The external genitalia are thoroughly scrubbed with soap and prepared as carefully as for any serious surgical operation; a vaginal douche of 2 per cent. lysol is given, and after giving the utmost attention to the nails, hands, and arms, the hand is

doubled up into cone-shape and guided by the cord (if present) to the placental site, counter-pressure being made with the external hand. The fingers are inserted between the placenta and the uterus and the former carefully stripped from its base, leaving the least possible amount of placental tissue; it should then be removed with the hand, while the external hand secures vigorous uterine contraction by massaging the uterus, according to Credé's method. Deep anæsthesia is necessary, using ether if the heart is weak. If all the adherent portions of the placenta are not removed, and can not be with the fingers alone, as in Kuhn's case, the sharp curette is recommended by some writers. The utmost care is necessary in the use of the instrument at this time, as the uterine walls are thin and soft, and the curette may easily penetrate to the abdominal cavity, or large portions of uterine tissue may be unnecessarily removed. (From Dr. C. B. Reed's paper in the *Journal of the American Medical Association*, May 6, 1899).

PREGNANCY, TREATMENT OF ADVANCED EXTRA-UTERINE.

Mr. Mayo Robson related a case in which he completely removed the foetus and sac. He thus concludes his paper:—I would offer for discussion the following points in the treatment of advanced extra-uterine pregnancy. On opening the abdomen, if the foetus be found among the intestines, the cord should be divided and the foetus removed; if the placenta be attached to the expanded tube it can probably be removed, as suggested by Mr. Taylor, but if spread over the intestines or large pelvic vessels its removal will be unsafe, and gauze packing of the placental area and drainage will be the safer method, the placenta having been cleared of blood and cleansed as much as possible. If the foetus is enclosed in a sac this should be opened at its thinnest part and the foetus extracted; the sac should then be carefully examined to ascertain if its removal is feasible. If thought practicable, the preliminary ligature or clamping of the uterine and ovarian arteries will simplify the subsequent procedures. All intestinal and omental adhesions must be dealt with by peeling them off where feasible and ligaturing where necessary. The deeper parts of the sac will be easily dealt with, if, as is usual, the attachment of the placenta is at the upper part. It will do no harm if very adherent portions of the sac be left, should their detachment present unusual difficulties. Subsequent drainage for twenty-four hours with a glass tube is, to my mind, both safe and useful in these and similar cases, and with proper antiseptic precautions is not, in my experience, attended with risk of infection. (*Medical Press and Circular*, March 1, 1899.)

PRURITUS VULVÆ.—Operative Treatment of.

Dr. E. C. Dudley (*Peoria Medical Journal*, January) says that when apparent causes have received due attention and the disease has resisted all other treatment, operative interference may become necessary. Saenger's conclusions on this point are based upon experience, and deserve attention. He says: (1) The partial or total extirpation of the vulva is a legitimate operation that should often be performed in chronic, otherwise incurable, pruritus vulvæ, which he calls *vulvitis pruriginosa*. (2) The removal also of the glans clitoridis, especially in elderly women, is permissible. Its nerve terminations have usually lost their specific sensibility by reason of the disease. (3) In younger individuals, if the irritation is circumscribed, one may try to give relief by a partial operation without removal of the clitoris. (4) In elderly women, when the disorder is extensive, the whole vulva should be extirpated and the parts repaired by a corresponding plastic operation. (*New York Medical Journal*, February 25, 1899.)

PUERPERAL SEPSIS.—Hysterectomy in.

Dr. J. R. Goffe (*Medical News*, January 28, 1899), in commenting on the case of a patient who died from exhaustion thirty-six days after operation, recognises two varieties of puerperal sepsis—sapræmia and septicæmia. The former, he states, is dependent on the toxines or ptomaines produced by the less virulent forms of bacteria, growing upon a putrefactive focus, whilst the latter is due to streptococci. In the saprophytic form there must be some retained placental or necrotic tissue which needs removal, *i.e.*, curetting. In streptococcic infection the curette finds no place. It must be treated by careful nourishment and stimulation. In cases of mixed infection both these methods of treatment must be combined. If in spite of vigorous treatment along both these lines the patient is steadily going from bad to worse, or the convalescence is delayed, the question then arises, What more can be done? Evidently hysterectomy, and the author is of opinion that his own case might have been saved had hysterectomy been performed earlier. (From Mr. Taylor's abstract in the *Medical Chronicle*, February, 1899.)

RETROVERSION OF UTERUS.

The following method has served me in several cases:—The patient's bladder and rectum having been emptied, she is put in the knee-chest position upon a low table. The operator then stands at her left hip, and with one or two fingers of his right hand introduced into the rectum or vagina endeavours to press the fundus down and away from him so that it will swing past the promontory to the right of the median line, which is the

direction of least resistance, the left pelvis being more or less occluded by the rectum, as is the median line by the promontory. At the same time, the operator's left arm thrown over the patient's right hip, holds her firmly in position against him, and allows him to gauge exactly how much force he is using with his other hand. With the patient in the knee-chest position, the right hand is much better adapted to swinging the uterus through the right pelvis than is the left. An assistant meanwhile draws the cervix down or stretches it with a double hook. The advantages of an anæsthetic must be weighed against the loss of the patient's sensations as a guard upon the amount of force used, and also the inconvenience of the knee-chest position when the patient is anæsthetised. (From Dr. Malcolm Storer's paper in the Boston Medical and Surgical Journal, March 9, 1899.)

STYPTICIN IN UTERINE HEMORRHAGE.

Boldt (*Medical News*, April 8, 1899) has employed this new preparation, introduced by Martin Freund, in 87 cases, which included nearly all uterine conditions giving rise to bloody discharge. In the menorrhagia of virgins without detectable changes in the pelvic organs, stypticin seemed to diminish the flow without any marked amelioration of the dysmenorrhœal symptoms. In fibromyoma in only one case was the flow diminished, while in cancer the results were negative. In para- and peri-uterine inflammations following labour and abortion the drug appears to have a prompt effect, allaying the condition and stopping the blood loss. Hemorrhagic endometritis was benefited only after the use of the curette, when the action of stypticin was marked with beneficial effects on the second day. In other conditions its administration was followed by more or less favourable results. Stypticin may be administered in doses of 1, 2½, to 5 grains four times a day in capsules, or hypodermically in one to three-grain doses in a 10 per cent. solution. The writer did not find that the drug produced a hypnotic effect as has been claimed. He requests those who have tried other remedies and found them wanting to add stypticin to their therapeutic agents, and feels convinced that in it will be found a most useful addition, and that as the result of its adoption the curette and local treatment will be less frequently called for. (From abstract in *Medical Age*, May 10, 1899.)

SYMPHYSIOTOMY.

On May 18, 1896, at 8 a.m., I was called to see a Mohammedan woman, aged apparently between 30 and 40 years, in her second confinement. In her first confinement craniotomy had been necessary. The os was found fully dilated, and the head presenting in the second position. The pelvis was contracted,

the sacral promontory being readily within reach. The false conjugata measured barely $3\frac{1}{4}$ inches. Chloroform having been given and the catheter passed, forceps were applied, but several powerful tractions produced no effect. The forceps were therefore removed and symphysiotomy performed by the subcutaneous method. Before the knife had completely cut through the cartilage the joint gave way with a crash. Forceps were re-applied and a good-sized boy delivered. The opening in the skin was at once dressed, and a firm bandage applied to the hips. Shortly after she had a slight attack of "whiteleg" on the left side. About five months later, when she still complained of pain and slight difficulty in walking, there was considerable atrophy of the right leg. The thigh was $1\frac{1}{2}$ inches less in circumference. On July 19, 1898, at noon, I was again called to the patient. She had been in labour since the previous evening, and the membranes had ruptured, but it was uncertain when. Pains were severe, and the os was found to be fully dilated, the head presenting in the right position, no progress having been made. After an hour forceps were applied, and the patient easily delivered of a girl. As far as could be judged, this child's head was about the same size as the previous child's at the time of birth. The patient stated that for the last year she had been perfectly well, and had had no pain, no weakness, or difficulty in walking. The two legs were of equal size. The case is interesting as showing a permanent improvement in the size of the pelvis after the operation of symphysiotomy. I was also struck by the ease of the operation (only a knife and a catheter were used), making it eminently suitable for small, dark, and dirty houses, where no skilled assistance can be had. (From Dr. M. Ida Balfour's note in the *British Medical Journal*, February 18, 1899.)

SYMPHYSIS PUBIS.—Suppuration in.

Dr. Kouchoff (*La Gynécologie*, February, 1899) relates a case in a patient who was taken ill eight days after normal labour with a rigor, accompanied by high temperature and severe headache. For the next three days she had some pain in the pubic and lumbar regions, and a swelling was observed above the pubes. This was ill-defined, firm, and painful. The patient declined any operation, and two months later an abscess burst on the inner side of the left thigh. This was freely opened and the cavity rapidly closed. The patient made a complete recovery. Suppuration of this joint after labour is extremely rare. The author gives a brief account of the symptoms, from an examination of published cases. The illness commences with fever and hypogastric pains during the puerperium. The swelling appears a few days later, either above the pubes or at

the side of the vagina. If the abscess is not opened, the pus usually makes its way to the surface of the external genital organs, or under the skin of the inner side of the thigh. (Dr. A. W. W. Lea's abstract in the *Medical Chronicle*, April, 1899.)

TAMPON, UTERINE.

In cases of atony there is no firmer and stauncher believer in the regularly applied uterine tamponade than I am. I have never noted a failure from its use, and always use this means in every case of uterine hemorrhage when one hot intra-uterine douche fails, and for this purpose always have constantly in my obstetric satchel ten yards of sterilised gauze five inches wide, tightly packed in a very small tube. Otherwise is it in cases of hemorrhage from the cervix. Here, and here only, do I find the legitimate indication for the use of suture and needle. I do not understand the utility of a primary cervical operation simply because of a cervical tear, deep or otherwise, so long as there be no hemorrhage. If the accoucheur has been surgically clean, all tears will, as a rule, heal without trouble. If sutures are applied, and asepsis has not been rigid, sepsis is likely to follow, and either the stitches must be removed or, if not, union will not take place. Therefore, only in the presence of cervical hemorrhage is the primary operation countenanced. (From Dr. S. Marx's paper in the *Medical News*, March 4, 1899.)

URETERS, CATHETERISATION OF, IN HYS-TERECTOMY FOR CARCINOMA.

The question of injuries to the ureters possesses no practical interest for the practitioner who operates only on carcinomata confined to a movable uterus. On the other hand, the one who holds the opinion that in uterine carcinomata, when the organ is fixed as well as when it is not, the most radical surgical measures give the only hope of cure or benefit, will, as Pawlik taught years ago, catheterise the ureters before and during such an operation. The reason is obvious. The ureter is transformed from a soft, collapsible tube to a hard, well-defined one, and thus is avoided with comparative ease. When they cannot be avoided, as in the cases in which they are included in the carcinomatous mass, and are carcinomatous themselves, the operation can, by means of the ureteral catheter, be planned beforehand as to route (abdominal or vaginal) and as to extent, and the diseased portions of the ureters can be excised with the rest of the growth and the remainder planted immediately either into the bladder or into the vagina, as the case may be, and in the latter case the resulting fistula may be closed by a subsequent plastic operation. In this way the accident, only too common, of unconsciously cutting the ureter, and flooding the peritonea

cavity with urine, can be avoided. (From Dr. Theodore Landau's paper in the *Medical Record*, April 8, 1899.)

UTERUS PERFORATION DURING CURETTAGE.

Dr. Elder (Nottingham) relates two cases, both of which recovered. He makes the following remarks:—In both of my cases I am disposed to believe that the damage was done by the dilator, and not by the curette, inasmuch as curettage had barely commenced before the perforation declared itself. Curettage has now become so well established in the treatment and diagnosis of intra-uterine troubles that one is apt to lose sight of its dangers and adopt it, when other and safer procedures might be substituted. It is well known that the uterine walls are softened and thinned by recent abortions or labours at term, by sepsis, and by cancerous, sarcomatous, and tuberculous degeneration—conditions most exposed to injury from instruments—and it is just in these cases, whether for the removal of decidual remains or the clearing up of diagnostic doubts, that digital exploration is of service. Adopting this method would greatly limit the need for curettage, and in the latter event the risk of accident is much diminished by a preliminary bi-manual examination of the parts to ascertain the condition of the appendages and the direction of the uterine body. On account of their tendency to tear the tissues by reason of their shape, I have recently discarded Hegar's dilator for a modification—conical shaped—instead of cylindrical, and more finely graduated. Unless for scraping away malignant tissue, I always use a blunt curette. Now, with regard to the treatment of perforation, assuming that all needful antiseptic precautions have been taken before and during the operation, the packing with iodoform gauze is, it seems to me, the best, leaving graver operations, such as opening the abdominal cavity and suturing the rent or removing the septic uterus, for future consideration should the symptoms point towards them. It is only in a very small minority that such occasions will arise. (*Medical Press and Circular*, January 4, 1899.)

UTERUS, RUPTURE OF THE.—Child Saved by Post-Mortem Section.

Kendall (*Ann. of Gynec. and Pediat.*, March, 1899), reports two cases of rupture of the uterus in which after the death of the mother the life of the child was evident from its motions in the abdominal cavity. The abdominal wall was, therefore, slit up, and the child extracted. One of the children died in a few minutes, but the other was saved, a finely-formed boy, weighing ten and one-half pounds. The mother was a primipara, only 18 years of age. (*Medical Press and Circular*, April 29, 1899.)

Medicine.

GENERAL MEDICINE AND THERAPEUTICS.

ART. I.—THE RENAL FORM OF ENTERIC FEVER.

By J. C. WILSON, M.D.,
Philadelphia.

[The following is taken from Dr. Wilson's paper :]

The prominence of certain symptoms in cases of enteric fever, the evidences of intense implication of special organs, and occasional modifications in the course of the attack, have given rise to various attempts to arrange the cases in categories and to describe special forms of the disease.

We find in systematic writings upon the subject descriptions more or less complete of the following forms of enteric fever :— (1) The mild, or typhus levissimus. (2) The latent or ambulatory form—walking typhoid. (3) The abortive form. (4) Afebrile enteric fever. (5) The enteric fever of childhood, so-called infantile remittent fever. (6) Enteric fever in the aged. (7) Hemorrhagic typhoid, the last being a rare form, commonly fatal, characterised by hemorrhages into the skin and from mucous surfaces, and corresponding to the hemorrhagic forms of variola, measles, and other infections. These categories are similar to the groupings of cases made by common consent in the descriptions of other acute diseases, and unquestionably serve a useful purpose. When, however, we observe a disposition to set up other lines of division and to group the cases upon a different system of classification, we are impressed with the unsatisfactory results of nosological refinements. To describe bilious and sudoral forms and to speak of ataxic and adynamic types is neither scientific nor convenient ; nor, for the student, does it simplify the subject to constitute distinct varieties, such as pleural, pulmonary, cerebro-spinal, and renal. Nevertheless, aberrant forms, of which these terms are descriptive, are encountered. They are

too rare to constitute varieties of the disease; too common to be disregarded in systematic descriptions.

The following case, recently seen in consultation with Dr. Byers and Dr. Hobson, is an example of the renal form of enteric fever—nephrotyphoid :—

A lad, aged 19, salesman, who had never had enteric fever and whose previous health had been excellent, began, about December 10, 1897, to complain of weakness and loss of appetite. A few days later he had headache, and was feverish in the evening. It was noticed that he was unusually pale. On December 24 he was obliged to abandon his work and remain in bed. About this time headache became severe. From this time on there was continued fever, the temperature ranging from 99·3° F. as a single minimum in the morning to 105° F. as a maximum in the evening, until the fifty-fourth day, when it became normal and remained so. During the greater part of this period the temperature fluctuated between 102° and 104° F. From the time the patient was obliged to remain in bed until January 8, namely, a period of fifteen days, the symptoms were those of an acute nephritis. The urine varied in specific gravity from 1010 to 1030, and showed large amounts of albumin, together with erythrocytes, leucocytes, epithelial cells, and granular casts. The breath was urinous, the skin hot and dry, and there were delirium and occasional vomiting, with a slight puffiness under the eyes, but upon the most careful examination no oedema elsewhere. An examination of the eye-grounds by Dr. Hansell showed engorgement of the venous circulation, but no retinitis nor any signs of past trouble. The amount of urine was about twenty-five fluid ounces in twenty-four hours. The patient did not improve under treatment directed to this condition, including calomel and saline purging, hot-air baths, and cut cups in the lumbar region, although under this treatment the quantity of urine voided was increased to sixty ounces in twenty-four hours. He became greatly emaciated and weak. On January 8 the following note was made:—General condition much improved, but the patient continues to be extremely weak. The temperature now ranges between 99° and 101° F. The amount of urine voided amounts to eighty or ninety ounces in each twenty-four hours. The albumin is greatly diminished, casts have almost entirely disappeared, one only now and then being found in the field. A few blood-corpuscles are occasionally seen. For the first time the patient on this date passed blood in the stools. Small amounts of blood continued to be present in the discharges from the bowels for eight days. Prior to this time the case had been carefully studied from the standpoint of a possible enteric fever. Abdominal symptoms were not, however, present, rose spots could not be found, nor enlargement of the spleen made out. An examination of the blood now, however, gave a positive reaction to the Widal test. A liquid diet consisting chiefly of milk had been administered from the beginning of the attack. On January 26 it was noted that the urine was free from albumin, but still contained a few erythrocytes and leucocytes. The temperature had fallen to 99·3° F. From this point the temperature began steadily to rise to the former level, the patient became delirious, albumin reappeared, together with granular casts, leucocytes, and erythrocytes. On February 2 there were diarrhoea and tympany, but no spots. On February 3 a rather copious crop of the rose spots of enteric fever appeared. From this time on until February 19 the progress of the case was that of enteric fever. Fresh crops of spots appeared, increase in the area of splenic dulness could be made out, the tendency to diarrhoea persisted. Albumin, casts,

and blood-corpuscles disappeared from the urine. Finally the patient developed the intense hunger so characteristic of the early convalescence. At the time of writing, April 15, the urine continued to be normal.

In this case the extended febrile movement covers an obscure primary attack in which the kidneys manifestly bore the brunt of the infection, and a relapse occurring without interval—so-called intercurrent relapse—in which the ordinary symptom-complex of enteric fever is present with renewed evidences of inflammation of the kidney. Such cases are extremely rare. Their recognition is, however, of great importance. Aside from the general theoretical importance of a correct diagnosis, we must consider here certain practical points. First, while the kidneys may, as in the foregoing instance, for a time bear the brunt of the attack, the ordinary intestinal lesions may also be present, and in this particular case the occurrence of hemorrhage was, without doubt, the evidence of deep ulceration attended with the danger of perforation. There are, then, practically two clinical dangers in these cases which render the recognition of their essential nature necessary to the welfare of the patient: first, the danger of the administration of an improper diet; and, second, that of the improper use of purgatives. The mistake of regarding a case of enteric fever of the renal form as one of acute nephritis occasions but little danger on the part of the prudent practitioner, since the regulation of the nourishment and a diet consisting largely of milk or dilute porridges would enter into the scheme of management; but there are those who are not altogether strict in regard to the diet of their cases of acute nephritis, by whom fruits, certain vegetables, or other solid food might be permitted. The danger from an error in diagnosis is altogether greater with reference to the use of purgatives, since the administration of calomel in full doses, and salines, enters very largely into accepted plans of treatment for acute nephritis. The diagnosis is, however, as difficult as it is important, and must remain in many cases an impossible one until the disease has made some progress. Of even greater importance is the danger of communication of the disease which attends an error in diagnosis. From the standpoint of preventive medicine the failure to recognise a case of enteric fever is attended with risks to the community enormously greater than any danger that may affect the interests of the individual patient. The final destruction of the infecting principle in the stools and urine by efficient disinfection means the arrest of the spread of the disease upon the spot so far as any particular case goes. To neglect this procedure amounts practically to a crime against the State. The differential diagnosis between enteric fever and any other disease with which it may be confounded

involves from this point of view enormous responsibility. The following case well illustrates the difficulty of diagnosis :—

I saw recently in consultation with a medical friend, at about the end of the second week of her illness, an unmarried woman, aged 36, who had been taken sick gradually with headache, great weakness, fever, tendency to diarrhoea, and other evidences of enteric fever. The spleen was enlarged. There were no rose spots. The tongue was red at the edges and tip, and heavily coated with a yellowish-white fur. In the course of a routine examination the evidences of an acute nephritis had been discovered in the urine. There was slight pretibial oedema. The temperature ranged between 102° and 104° F. The general appearance of the case was that of enteric fever of mild type. At my suggestion, the agglutinating power of the blood-serum upon Eberth's bacilli was tested (Widal test). About seven weeks later I was informed by the physician in charge that the convalescence of the patient was practically assured. In addition, he wrote as follows :—"After you saw the case her temperature pursued a zigzag course, gradually declining and becoming normal about the twenty-second day after the nurse arrived," about the twenty-ninth day of the attack. "There was some mild delirium, and after some days the tongue became dry and glazed. The albumin disappeared as the fever subsided, but after some days there developed a phlebitis of the left leg, after which albumin was again temporarily present in the urine. No rose spots were discovered. The Widal test was negative. While willing to admit that the Scotch verdict of 'not proven' is applicable to this case, I still feel that it was one of typhoid infection."

In this case a repetition of the Widal test at a later period was unfortunately not made. The patient ultimately entirely recovered, with permanent disappearance of albumin. The agglutination-test is of the utmost importance in finally settling the question of diagnosis in doubtful cases. In the form of the disease under consideration, however, its value is greatly impaired by the fact that in a certain proportion of the cases the power of arresting the motility of the typhoid bacilli and causing agglutination does not show itself until the disease has made considerable progress—not earlier in some cases than the end of the second or some period in the course of the third week. It is of practical importance, then, to treat all doubtful cases in which for the time being the differential diagnosis between subacute or acute nephritis and enteric fever cannot be made as possible cases of enteric fever. Certainly this method of management is imperative as regards the regulation of the diet and the disinfection of the stools and urine—matters which involve no risk in any case and which recommend themselves for acceptance in doubtful cases in view of the fact that in the majority of instances in which this particular differential diagnosis is in question the sickness will ultimately prove to be enteric fever.—*American Journal of the Medical Science*, December, 1898.

2.—THE TREATMENT OF TYPHOID FEVER BY CHLORINE.

By REYNOLD W. WILCOX, M.D.,

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Post-Graduate Medical School and Hospital, &c.

[From Dr. Wilcox's paper.]

An extended experience with chlorine has shown me that a very considerable number of patients suffering from demonstrable typhoid fever do recover under this treatment in a period shorter than the assigned time for its course without ever having experienced evidences of marked systemic poisoning. On the other hand, I am aware that Sanulli is strongly of the opinion that in this disease the intestinal lesions are the result of the action of the toxins circulating in the organism infected by the germ of Eberth, and that this is the principal cause of the material manifestations and morbid phenomena which go to make up the clinical picture of typhoid fever. If this be true, then an antiseptic which can be disseminated so far as the blood goes, and which can permeate every organ and every tissue is the prime necessity. Probably no more difficult series of typhoid patients ever presented themselves than the soldiers who returned from the late war. These patients did not suffer from typhoid fever alone—it was starvation *plus* typhoid fever, and when they were brought to the city to hospitals large numbers of them were either delirious or comatose, emaciated beyond recognition, the symptoms resembled septicæmia rather than enteric fever, so that the problem of restoration to health was by no means an easy one. If there ever was a test for any method these conditions certainly furnished a severe one. In all the instances which I have recorded the diagnosis was confirmed by the Widal reaction.

Case 1.—McD., aged 22, was in Puerto Rico from July 27th to September 11th. Eight days after his return the symptoms appeared. He came under my observation on October 1st, having been treated from September 19th by various methods, bathing, quinine, hydrochloric acid, oxgall, &c. His temperature at no time had been less than 102° F., in spite of all the methods, except immediately after some of the baths upon the 26th, 27th, and 28th of September, when there was a fall for a few hours, followed by a rise to a higher level. From this time to October 14th his temperature remained between 100° and 102° F., or over. Upon the 14th chlorine water was administered in dram doses every three hours, with the result that upon the 16th, two days later, his temperature reached 99.2° F., rose that evening to 100° F., and gradually subsided until his discharge, on the 28th, with a normal temperature. During the period of chlorine administration, in this and the subsequent cases, we made use of alcohol sponge-baths, and the patient was given milk with as much pure water

as he cared to drink, an accurate measurement being made of all fluids taken in the twenty-four hours, as well as the amount of urine passed during that period. This patient presented symptoms such as I had not seen since my student days—the apathy, the coated tongue, the tympanites—yet his convalescence was rapid and definite.

Case 2.—R.S., had been under observation since September 12th, when he was found to be comatose, so that no history could be elicited. From the first his temperature had been persistently from 103° to 105° F. On October 4th the chlorine treatment was begun. The lowest point reached since he came under observation was on the 6th, when his temperature was 99° F., with a rise to 101° F. in the evening. His temperature gradually fell, reaching normal on the 13th, when convalescence was established.

Case 3.—M.D. took part in two battles in Cuba. On September 8th his afternoon temperature was 104° F. and on the 10th, 106·2° F.; then a few days of subnormal temperature followed. His temperature followed such an irregular type that the blood was examined and plasmodium found to be absent. After a period of comparatively low temperatures on October 13th the patient suffered from a relapse, his temperature reaching 104·5° F. in the afternoon and 105° F. in the following afternoon. At this time we administered chlorine water, with the result that normal temperature was reached upon the morning of November 2nd, and under the continuance of this remedy never rose above 99° F. The patient was discharged well on November 8th. During the early part of his treatment and up to the time of the relapse it was considered that he was progressing as well as could be expected, so no antiseptic treatment was instituted.

Case 4.—M.H., seen September 25th. No history was obtained as the patient was delirious. His temperature on admission was 104·6° F., running very irregularly, being with one exception over 101° and generally about 104° F. He had a severe hemorrhage on October 2nd. Quiet and the ice-coil upon the abdomen kept the patient in a fairly comfortable condition. The temperature oscillated between normal and 101° F. during the process of his disinfection, which was commenced on the 6th. On October 11th the afternoon rise being less than one degree, his medication was omitted. On the 14th pneumonia of both lower lobes developed and the usual course of pneumonia followed, reaching its culminating point on the 17th and gradually defervescing. Inasmuch as the stools during the latter part of the month, the 30th and 31st, were offensive and the patient suffered from tympanites and had a temperature of from 100° to 101° F. chlorine was again given. Normal temperature was reached on the 15th, and convalescence continued until he was discharged on the 27th of November.

Case 5.—G.O. came under observation on September 5th apparently in the early stages of the disease. On October 7th the evening temperature was 103·5° F. At this time chlorine treatment was begun. Normal temperature was reached on the 9th, and from that time on until the 19th his temperature never reached 100°, and was generally about 99° F. On the 19th there was a sudden rise to 103° F., and a very careful examination of the abdomen and the general symptoms showed no cause for it. Inasmuch as a rise of this kind is extremely rare when the patient is under chlorine treatment, and is never due to any recrudescence of the disease but to some accidental or complicating condition a very vigorous search was instituted, and it was found in a phlebitis of the left femoral vein. Under appropriate treatment this subsided gradually, and the patient was entirely well in the early days of November.

From these and a very considerable number of patients whom I have seen I believe that there is in medicine nothing more striking than the clearing up of the tongue, the improved mental condition, and the lessened local disturbances and the general betterment which chlorine brings about when administered to these patients presenting the severer forms of the disease. I have presented these histories very briefly for the sole purpose of pointing out that the use of this remedy is not contraindicated by the severity of the disease nor the hopelessness as regards the patient's recovery. These have been, in fact, the most severe instances of typhoid fever which I have seen in the last twenty years. After four years of observation I am ready to reiterate the conclusions which I presented to you in my former paper, viz. :—(1) That in the treatment of typhoid fever chlorine can be safely administered until complete disinfection of the alimentary canal is obtained. (2) Under its use the tongue becomes cleaner, the appetite and digestion better, the fever lower, and the stools devoid of odour save that due to chlorine. (3) The general strength, intellectual processes, and nervous conditions improve. (4) The disease is shortened in duration, and the patient usually proceeds to a rapid and complete recovery.—*Medical News*, February 11, 1899.

3.—STUDIES IN SERUM DIAGNOSIS.

By RICHARD C. CABOT, M.D.,

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F. L. LOWELL,

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In connection with the summer service in the male medical room at the Out-Patient Department of the Massachusetts General Hospital, 376 tests for Widal's clump reaction were made. We were investigating three points :—(1) The frequency of the reaction in non-typhoid cases. (2) The frequency of a reaction persisting after convalescence in typhoid. (3) The intensity of the reaction at different periods of the course of cases of typhoid.

1. *Control Cases*.—In the first group there were 204 cases without history of typhoid ; all were negative, with a dilution of 1 to 10 and a fifteen-minute time limit. This group includes seven cases in negroes, and one baby whose mother had typhoid during pregnancy. In many of these cases the result of the test was of considerable assistance to us in diagnosis. Others were tested simply for statistical purposes.

2. *Typhoid Fever*.—In three cases patients with typhoid, who presented themselves at the out-patient room, the Widal reaction

was present, although they did not seem much sick. The diagnosis of these cases was confirmed by the later course of the fever in the hospital.

3. *Serum Tests after Recovery from Typhoid.*—Ninety-eight cases were tested; 39 of these had previously been in the hospital, and there passed through undoubted attacks of typhoid, the Widal reaction being then present in the blood. These persons presented themselves at the out-patient department in answer to postal cards asking them to call there. Thirteen out of 39, or just one-third of them, still showed a positive Widal reaction. These figures are practically identical with those of E. Rénard, who got 35 positive reactions out of 104 cases tested. Of our 39 cases the Widal reaction persisted in five cases out of ten for from one to three months after convalescence; in one case out of five it persisted six months after convalescence; seven cases out of 24 persisted seven to eighteen months after convalescence. The longest period in our series during which the reaction persisted was fifteen months, but no cases were tested in this series unless the Widal reaction had previously been found in the blood, and as the earliest tests made in the hospitals were in October, 1896, we could not examine any cases at periods over two years after convalescence. One of these cases showed clumping at 1 to 100 dilution three months after convalescence (time limit, fifteen minutes); at 1 to 200, no clumps. Besides these 39 cases of whose diagnosis we were sure, we tested 49 others who said that they had had typhoid. In 34 of these the attack dated from more than seven years before; in 25 of these the attack dated from less than seven years before. All of these were negative without exception, but we do not attach much value to the results, as we are far from certain of the diagnoses.

4. *Quantitative Tests of the Intensity of the Reaction.*—In this part of our work our results are very fragmentary, owing to the difficulty of following cases for long periods and the amount of labour involved in quantitative work. Nine cases were studied. We have only space to quote four of these here. *Case 1* was of moderate severity and uncomplicated. The serum reacted in dilution of 1 to 50 on the fifth day after entrance, and of 1 to 100 three days later. But over a week before the temperature reached normal the clumping power had fallen to 1 to 10, at which figure it remained until the patient went home, nearly two months later. This case contradicts Courmont's dictum, that a fall in clumping power during lysis means relapse or complication. *Case 2* exemplified a considerably higher clumping power than any other in our series. The agglutinating power fell during the lysis of the original attack, rose again in relapse, reaching then a higher point than in the original

attack, and maintained for at least two weeks, and, presumably, more, the power to clump in dilutions of 1 to 1,000. Even as late as one month after the fall of temperature to normal the serum still clumped at 1 to 400. *Case 3* simply shows how the clumping power may rise after the temperature has reached normal. *Case 4* forms a marked contrast to the others in our series, in that the reaction disappeared before the patient was out of bed, instead of persisting into convalescence, as is usually the case.

Technique.—As has been already said, the 376 tests here summarised were made in an out-patient clinic, and without further laboratory facilities than form part of the furniture of a physician's office. No thermostat was used, the agar stock cultures being simply kept at room temperature. Bouillon transplantations from these were made about every third day. The whole blood in fluid condition was used in every case. A single drop of blood expelled into five drops of water (the same medicine-dropper being used for both the water and the blood) was mixed in a test-tube. A drop of this mixture added to a drop of bouillon culture of typhoid bacilli gives a 1 to 10 dilution, which was that used in most cases. Very little blood and very little bouillon are thus required. The remaining four drops of the blood and water can be used to make higher dilutions. If, for example, we dilute one drop of our blood-and-water mixture with eight drops more water, and then add a drop of this mixture to one drop of bouillon culture, we have a 1 to 50 dilution. Similarly,

- 1 drop of blood and water + 18 drops of water + 1 drop bouillon culture = 1 to 100 dilution.
- 1 drop of blood and water + 98 drops of water + 1 drop bouillon culture = 1 to 500 dilution.
- 1 drop of blood and water + 198 drops of water + 1 drop bouillon culture = 1 to 1,000 dilution.

Thus with an original outlay of one drop of blood and five drops of bouillon culture we can make dilutions of 1 to 10, 1 to 50, 1 to 100, 1 to 500, and 1 to 1,000, or any other five dilutions we choose. Water is the only thing we need much of. The time limit used in all these tests was fifteen minutes.

Summary.—(1) The Widal test can easily be carried out in out-patient work. (2) Two hundred and four cases of disease other than typhoid tested; all with negative results. (3) Thirty-nine cases of sure typhoid tested at periods of from one to 18 months after defervescence; 13 of these reacted positively, one at a dilution of 1 to 100. (4) Nine cases tested quantitatively; one case reacted at 1 to 1,000 for several weeks. No data of prognostic value obtained.—*Boston Medical and Surgical Journal*, February 9, 1899.

4.—A SYSTEMATIC BACTERIOLOGICAL EXAMINATION OF THE FAUCES IN SCARLET FEVER AS A MEANS OF PREVENTING POST-SCARLATINAL DIPHThERIA.

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Hospital ; Physician to the London Fever Hospital, &c.

[The following is taken from Drs. Garratt and Washbourn's interesting paper. Some parts, including tables, have been omitted:]

In hospitals for infectious diseases patients convalescing from scarlet fever are not infrequently attacked with diphtheria. The cause of this has been the subject of considerable discussion ; but a prevalent theory is to attribute it to the introduction into the scarlet fever wards of unrecognised cases of diphtheria. If this view be correct, it follows that post-scarlatinal diphtheria could be prevented by the early recognition and isolation of such cases. The great difficulty encountered is that the clinical diagnosis of diphtheria is often impossible, especially in patients who are in the acute stage of scarlet fever. The only other method available for the recognition of the disease is the detection of diphtheria bacilli in the fauces by bacteriological examination.

In consequence of an outbreak of post-scarlatinal diphtheria in the London Fever Hospital during the winter of 1895-96, which necessitated the closing and disinfection of some of the wards, it was decided in March, 1896, to examine bacteriologically the throats of all scarlet fever patients then in the hospital and of all new cases on admission. Of the former, those in whose throats diphtheria bacilli were found were isolated. Our present communication is a record of the examination in this way of all cases of scarlet fever admitted under our care since the above date, our object being to determine, first, the frequency of the occurrence of diphtheria bacilli in the throats of scarlet fever patients ; and, secondly, the possibility of preventing post-scarlatinal diphtheria by the isolation of those cases in whose throats these bacilli are found. The cultivations were made upon Loeffler's blood serum, and were examined microscopically on the following day. Bacilli of the diphtheria family may conveniently be divided into three groups:—(1) The Klebs-Loeffler, or true diphtheria bacillus.

(2) Bacilli resembling the above in morphological and cultural characters, but non-pathogenic to guinea pigs. (3) Hoffman's bacillus. We have discarded the term "pseudo-diphtheria bacillus" because it has been used in different senses by different authors. The distinction between the first and second groups depends mainly on the question of pathogenicity. This test was applied only to the bacilli of cases already in the wards in March, 1896, but it was not found practicable to continue the method. In the present record we have, therefore, coupled together these two groups under the single heading of "bacilli morphologically resembling the Klebs-Loeffler bacillus." Hoffman's bacillus from a 24-hours' old serum culture appears as a short pyramidal organism arranged in pairs, with the bases in apposition, the pairs being often grouped in parallel rows of two or more. Its protoplasm stains uniformly with methylene blue. This bacillus exhibits no pathogenic effect on the ordinary laboratory animals. It can usually be distinguished from members of the first and second groups by microscopical examination.

During the period from March, 1896, to December, 1898, inclusive, 666 cases of scarlet fever were admitted under our care. We have divided them into three classes :—(a) Cases in whose throats bacilli morphologically resembling the bacillus diphtheriæ were present on admission. These only amounted to 8, or 1·2 per cent. (b) Cases in whose throats Hoffman's bacillus was found on admission. These numbered 21, or 3·2 per cent. (c) Cases in whose throats neither bacillus was found on admission, the organisms present being other bacilli, various cocci, torulæ, &c. In only one of the seven cases belonging to Class A was there reason to suspect the presence of diphtheria from the clinical appearance of the throat, and even here the exudation was less suggestive of this disease than is often the case in pure scarlet fever. In one case, though the only evidence of diphtheria on admission was obtained from the bacteriological examination, slight paralysis ensued, and in this case there was distinct evidence of exposure to the double infection. The other cases exhibited no clinical evidence of diphtheria either on admission or subsequently. Half of these cases were admitted during the acute stage and half after it had passed. All made a good recovery. In Class B there were 21 cases. In considering the above results three points of interest appear :—(1) Bacilli resembling the diphtheria bacillus in morphology were found on admission in the throats of only 1·2 per cent. of our cases ; (2) only a minority of these cases presented clinical evidence of diphtheria ; (3) the presence of Hoffman's bacillus in the fauces did not appear to play any part in the causation of diphtheria.

We will now pass to the consideration of the second question which we propounded—namely, how far it is possible to prevent post-scarlatinal diphtheria by the method adopted. If statistics from the London Fever Hospital are compared with those from the Metropolitan Asylums Board it will be observed that the percentage of post-scarlatinal diphtheria at the London Fever Hospital has been uniformly lower than that at the hospitals of the Asylums Board. The cause of this, probably dependent upon differences in the average social status and age of the patients, is beyond our present inquiry. In both institutions, however, a conspicuous increase in the percentage of post-scarlatinal diphtheria appeared in 1895. Whereas, however, in the Asylums Board hospitals this percentage continued to increase in 1896 and 1897, in the London Fever Hospital it suddenly fell in 1896, and continued to diminish, until in 1898 no case occurred. This difference is rendered more conspicuous when it is pointed out that of the three cases in 1896 two occurred before the month of March, when our record commences. Since that date but two cases of post-scarlatinal diphtheria have occurred among 1,332 scarlet fever patients admitted, in spite of the admission of 150 cases of diphtheria. Of these two cases one was isolated on account of rhinorrhœa, accompanied by the presence of diphtheria bacilli in the nose. In an adjoining room was a case of diphtheria with scarlet fever. It is possible that the mild attack of faucial diphtheria which supervened six weeks after admission was contracted from this source. On the other hand, the throat may have been infected from the nose. For the second case no cause could be assigned. In neither of them were bacilli found on admission. Both made good recovery. The first of these two patients was included in a series of 51 cases of post-scarlatinal rhinitis described by Todd, his observations covering a part of the period included in our report. The leading characteristics of this complaint were as follows:—It attacked children only, causing external rhinitis with slight watery discharge. It caused no constitutional disturbances. It was definitely contagious, spreading as rhinitis from child to child, but it did not give rise to faucial or laryngeal diphtheria. A bacillus was isolated by Todd from the noses of these patients, which by all available tests, including that of pathogenicity, was the true diphtheria bacillus, yet he failed in nearly every case to discover any such bacillus in their throats. Were these cases of nasal diphtheria? If so, why did they give rise to rhinitis only and not to faucial diphtheria, and why did not the disease spread beyond the nose? Whatever the explanation, the fact remains that post-scarlatinal faucial diphtheria did not arise. Nevertheless it appears to us that such cases of rhinitis might be the starting-point of faucial

diphtheria, and that in future they will require careful supervision.

General Conclusions. — We believe that post-scarlatinal diphtheria is due to the introduction of unrecognised cases of diphtheria into the scarlet fever wards, and that this can only be obviated by systematic bacteriological examinations of all cases on admission, and by separation of those in whose throats diphtheria bacilli are found. If Hoffman's bacillus, which we believe to have no direct causal connection with diphtheria, be excluded, the number of such cases, though probably greater among patients more liable to double infection than ours, should not be beyond the isolation resources of most fever hospitals; moreover, absolute isolation does not appear to be essential. At any rate, we consider that the method deserves trial on a larger scale. Further, we think that some supervision of cases of rhinitis with diphtheria bacilli in the nose should be practised, such as keeping them in bed while the discharge continues; for though these cases do not appear to have given rise at the London Fever Hospital to faucial or laryngeal diphtheria, yet such an occurrence is quite possible.—*The British Medical Journal*, April 15, 1899.

5.—THE IMPORTANCE OF THE EARLY ANTITOXIN TREATMENT OF DIPHTHERIA.

By E. W. GOODALL, M.D. Lond.,

Medical Superintendent of the Eastern Fever Hospital
of the Metropolitan Asylums Board.

[The following is taken from Dr. Goodall's paper on the value of the treatment of diphtheria by antitoxin. Towards the end of the paper, the author considers the cases in which paralysis follows, and emphasises the importance of early treatment:]

The consideration of the paralysis cases alone shows the importance of beginning the serum treatment early, but the necessity for this is also exemplified by a study of the mortality according to the day of disease upon which the treatment was commenced. This time influence is well illustrated in the Asylums Board Reports. In 1894 (non-antitoxin cases); of 133 patients admitted to hospital on the first day of illness, 30 died, or 22·5 per cent.; and of 539 admitted on the second day of illness, 146 died, or 27·0 per cent.; while for the cases treated with antitoxin in 1895 and 1896, of 143 treated on the first day of their illness, 7 died, a mortality of 4·8 per cent.;

and of 809 treated on the second day, 121, or 14·9 per cent., died. For 1897, the figures of all the hospitals have not been published, but I have those for the Brook and Eastern Hospitals, which combined are as follows :—66 cases treated on first day with 1 death, or 1·5 per cent. ; 317 treated on the second day with 16 deaths, or 5·0 per cent.

In the annual reports of the Asylums Board are contained another series of figures which to my mind show conclusively the value of the antitoxin treatment, and the necessity of its early application. For some years past cases of diphtheria have occurred annually in every hospital of the Board amongst the patients convalescent from scarlet fever. This post-scarlatinal diphtheria, as it has been termed, has been the source of much anxiety to the committee of management and medical superintendents of the different hospitals. The chief reason for this anxiety was the terrible fatality of the disease. It was rarely below 50 per cent. at the different institutions. Of 482 cases collected by Hume from the reports of the various hospitals for the five years preceding 1895, the mortality was slightly over 50 per cent. At the Eastern Hospital for the years 1891-94 it was 61·2, 52·9, 60·0, and 42·8. Well, in 1895 the antitoxin treatment was used in these cases. What has been the result? For that year I am unable to give the results for all the hospitals, the figures not having been published ; but at the Eastern Hospital it was 25·0 per cent., at the Northern 5 per cent., at the Western 8 per cent., at the South-Western 14 per cent., and at the Fountain 6 per cent. Not all the cases during 1895 were treated with antitoxin, but even then the reduction in the fatality was sufficiently noticeable. This reduction was continued during the years 1896 and 1897, when the fatality for all these cases in the Board's hospitals was 5·0 and 4·1 per cent. respectively, the majority of the cases during these years being treated with antitoxin. I am aware that it will be objected that a large number of these were cases in which the diagnosis of diphtheria was made merely on bacteriological grounds, and that such cases were of a very mild character. But I am fully prepared to concede a large number of them : I will let you strike out three-quarters of those which recovered, and retain all the fatal cases, even though some of them were not treated with antitoxin. This is by no means an unfair concession, for it reduces the incidence of diphtheria on the completed scarlet fever cases for the years 1896 and 1897 to 1·1 and 1·3 per cent. respectively, a lower percentage for any year since 1888 with the exception of 1893. What, then, is the fatality of the remaining quarter of the cases? For 1896 it is 20·1 and for 1897 15·0 per cent., and that against a previous fatality of 50 per cent. I have no hesitation

in saying that the chief reason for this marvellous reduction is the fact that most of these cases were treated early on the first or second day. The patients were inmates of hospitals, and under the strict observation of medical men and nurses at the time they were taken ill with diphtheria, so that the treatment was undertaken early; and I would like to add that whatever doubts there may be concerning the statements made about the duration of illness of patients admitted with diphtheria from outside the hospitals, for the reason I have just mentioned there can be no doubt on that score with respect to these cases of post-scarlatinal diphtheria.

So far I have dealt almost entirely with the statistical proofs of the value of antitoxin, though the clinical fact of its action in arresting the local affection has also been demonstrated. I must very briefly state the effects of antitoxin as exhibited in individual cases. A much larger experience has confirmed the opinions expressed in a paper read by Dr. Washbourn, Mr. Card, and myself before the Clinical Society in December, 1894, when we recorded the results of the treatment in the first series of cases treated in this country. Not only is the extension of existing and the formation of fresh exudation stopped, but also that which is present clears off more rapidly than in cases where no antitoxin is used. When the nasal passages are affected, the foul discharge from the anterior nares that nearly always exists very quickly ceases, greatly to the comfort of the patient and those in attendance upon him. In many of the fatal cases the fauces and nose are absolutely clean before the termination of the case. The lessening of the faucial inflammation enables the patient to breathe and take nourishment without discomfort. The enlargement of the cervical glands disappears, and the inflammation of the cellular tissue of the neck subsides. The visible improvement in the general condition of the patient reflects the changes that have taken place in the local lesions. Pulse-rate and temperature fall, appetite returns, and the patient is soon convalescent. Even in cases which end fatally, when antitoxin has been given at too late a period to save life, the patient's last moments are made easeful, and the death-bed is robbed of all the loathsomeness we were accustomed to associate with fatal diphtheria.

The list of drugs in our *Pharmacopœia* is long. For all it is claimed that they are of value in the treatment of one and the other of the ills to which our flesh is heir. Yet I do not think I exaggerate when I say that few of even the most useful have been subjected to the same fierce criticism as has the antitoxin of diphtheria, and still fewer have borne the ordeal as triumphantly.—*British Medical Journal*, February 4, 1899.

6.—UNCOMPLICATED EPIDEMIC INFLUENZA AS IT AFFECTS VERY YOUNG CHILDREN.

By CHARLES O'DONOVAN, A.M., M.D.,

Professor of Diseases of Children in the Woman's Medical College of Baltimore.

[The following is taken from Dr. O'Donovan's paper :]

In December, 1898, the "grippe" reappeared in Baltimore quite severely, and showed a particular affinity for young children. I saw in private practice seven children, between the ages of four months and two years, who suffered from uncomplicated "grippe," in each of whom the symptoms were so exactly identical that the picture of the disease seems complete. Although the onset was in each case sudden, there were distinct prodromal symptoms of excitement, not at all violent, but it was noticed that the child had been particularly bright and lively before it became ill. This stage lasted from three to six hours and ran usually through an afternoon. Instead of going quietly to sleep, as usual, the child had continued excited and restless, with some increase of warmth of surface, not excessive. To this succeeded more or less continued fits of vomiting, bringing up quantities of food, curdled milk, or whatever had been eaten. Immediately after vomiting the fever began and rose quite rapidly to 104° or 105° , with some thirst and more vomiting as soon as water or milk was taken. The tongue remained clean, the mind was clear, the child could be amused but was languid and weak from the repeated efforts at vomiting; the bowels were natural or slightly costive; respiration was but little hurried.

In uncomplicated cases the pulse was quite weak and very rapid, 160 or 180 being often counted. Auscultation of the lungs and heart showed nothing abnormal in either organ. The urine was high coloured, making a distinctly yellow stain on the napkin. I was not able to obtain any for a satisfactory clinical examination. The vomiting continued until the bowels had been moved by a laxative, small doses of calomel being used in every instance at half-hour intervals until the characteristic stools were produced. But little food was allowed; this could be managed quite readily, as there seemed to be no desire for it; a little milk being all that was taken, and that rather as a drink than because of hunger. Cool water was given freely, and was very grateful. After the vomiting ceased and the bowels had been moved, the high, continuous fever was the chief symptom, producing restlessness and extreme weakness. The child soon learned that its usual play was out of the question, and was

readily persuaded to remain in bed. Quinine, given by preference in suppositories, had no effect on the temperature; antipyrin, given the same way, did reduce it about two degrees, but it was used only once and then before the diagnosis had been established; the other cases were watched and allowed to run themselves out without treatment, except the laxative, the time required in every instance very closely approximating thirty-six hours. The children rapidly pulled themselves together after the disappearance of the fever, and in two or three days' time were as well as ever. Food was allowed in increasing quantities as soon as convalescence was established, and it was noticed that the appetite reappeared at once, the difficulty being to prevent the child from over-eating in its desire to catch-up. No after-effects were noticed in any of the cases; none of that lassitude or prolonged weakness that so frequently protracts the convalescence of adults from similar attacks.

The treatment of these cases should be the simplest possible; the vomiting I consider to be beneficial, as the stomach is unloaded and food is rejected at a time when, owing to the very high fever, it would in all probability do more harm than good. It is good treatment to assist Nature in this matter and unload the bowels also by means of some gentle laxative, such as small doses of calomel, which is as good as any, as it helps to allay the irritability of the stomach. The temperature of the room should be a trifle high and equally maintained. I was best satisfied with 75°. The diagnosis is to be made by exclusion of other causes, such as a sudden and severe elevation of temperature, and also by the recognition of the existence of "grippe" in the community in epidemic form.

As depicted here, the disease presents no remarkable features, and in each instance advanced kindly to a rapid and fortunate termination. While this normal form of the disease is not disquieting, a complicated case with broncho-pneumonia will cause no end of anxiety to the physician and will often produce a fatal ending. Suspected cases should therefore be promptly confined to the warm nursery, and every measure should be adopted to prevent serious complications.—*Pediatrics*, April 1, 1899.

7.—THE DIAGNOSTIC SIGNIFICANCE OF THE CANON-PFEIFFER BACILLUS.

[The following leading article, taken from the *New York Medical Journal*, March 18, 1899, is of interest, since the diagnosis of influenza is rarely made in England by the aid

of bacteriological methods. Yet the diagnosis of influenza is often uncertain enough, being frequently arrived at by means of exclusion :]

If we admit that this organism is the cause of influenza, the practical value of its recognition in cases of disease seems likely to prove greatest in instances in which the influenza complicates other affections or is itself marked by unusual features. In a preliminary report by Dr. F. E. Wynekoop, first assistant bacteriologist of the Chicago Department of Health, recently issued by the Department, we find it stated that in several instances the bacillus of diphtheria and that of influenza have been found at the same time in the throat, and the symptoms have usually accorded with this fact. The influenza bacillus, says Dr. Wynekoop, has been found present also in cases of scarlet fever, measles, and pneumonia, and in all these instances it has been noticed that there were clinical manifestations that were difficult to interpret until the microscopical examination was made. Dr. Wynekoop goes on to say that in the diagnosis of cases suspected to be those of diphtheria some interesting observations have lately been made relative to obscure symptoms of that disease. In cases that appeared to be diphtheritic at the onset the presence of the Canon-Pfeiffer bacillus has been demonstrated, and the subsequent course of the disease has confirmed the microscopical diagnosis of influenza. In many of these cases, says Dr. Wynekoop, the throat symptoms were so marked—redness and swelling of the tonsils and a well-developed membrane—that a physician would not hesitate to pronounce the case one of diphtheria, yet influenza bacilli were found in a condition almost pure. Cases with little throat disturbance, but with a rise of temperature, bodily aching, and general depression, on the other hand, were found to be examples of mild diphtheria, in spite of the symptoms pointing to influenza. The influenza bacillus, too, was the sole micro-organism found in certain cases that appeared to be instances of amygdalitis or of severe laryngitis. Very few of the general symptoms of influenza were observed in these cases, and the diagnosis was made solely on the strength of the bacteriological examination, but was confirmed by the subsequent course of the disease.

Dr. Wynekoop remarks that it has occasionally been observed that when there is influenza in a household some member of the family is suddenly attacked with acute inflammation of the conjunctiva characterised by severe pain, swelling, redness, and a profuse discharge of pus of medium consistence and cheesy appearance. As the picture differs materially from that of ordinary acute inflammation of the conjunctiva, it has been suspected that the bacillus of influenza might have something

to do with the diseased condition, and that organism has been found in abundance in the discharge.

We are informed from the Office of the Chicago Department of Health that since the January report was published the Canon-Pfeiffer bacillus has been found in the bronchial mucus of a number of patients presenting the characteristic symptoms of mumps. These symptoms, however, have not usually lasted more than three or four days, and then the swelling and soreness have subsided and the temperature has fallen to normal; but, coincidently with the subsidence of the symptoms of mumps, there has occurred in some cases a sharp intestinal disturbance, with peritonitis and dysentery in two instances. All these cases have occurred in adults, and thus far none of them have proved fatal.

8.—PLAGUE.

By ERNEST L. MARSH, M.B., C.M., D.P.H. (Oxon.), late
Assistant Medical Officer, Plague Hospital, Poona.

[The following is taken from Dr. Marsh's paper:]

The report on the Plague Hospital, Poona, from which the following statement is mainly derived, deals with the period from June 1, 1897, to March 31, 1898. During this period 4,179 patients were treated for plague in the hospital. Of the 4,179 patients 2,836 died, 1,310 recovered, and 33 remained on March 31, 1898. Of the 2,836 patients who died, 489 were moribund on admission, and died within a few hours after admission. Of the 4,179 cases, 1,743, or 42 per cent., were males above 10 years of age; 1,719, or 41 per cent., were females above 10; and 717, or 17 per cent., were children 10 years of age and under. Non-bubonic cases, which were usually cases of a pneumonic type, or septic and malignant cases, showed the greatest fatality. This becomes at once evident in the following table of the percentages of recoveries:—

	Total Recoveries. Per cent.	Bubonic Recoveries. Per cent.	Non-Bubonic Recoveries. Per cent.
Males	28	30	25
Females	33	35	26
Children	38	40	32

In most cases the bubonic swelling enabled a positive diagnosis to be given without hesitation. Some difficulty in pronouncing on the diagnosis occurred in those cases where

tangible evidences were absent, as in cases of a non-bubonic type. A statement of the situation of buboes and their relative fatality shows that buboes were most frequent in the left femoral region. Out of a total of 3,152 bubonic cases, 869 were left femoral ones. The next most common situation was the right femoral region. This region showed 842 cases with buboes. Thus it will be seen that the right and left femoral glands were affected in 1,711 out of 3,152 cases. The next most frequent were the axillary cases, the left (307 cases) being slightly more numerous than the right (301 cases). Cervical cases showed 174 left and 176 right cases. The inguinal cases were comparatively few in number, viz., 42 left and 43 right cases. There were as many as 327 cases of multiple buboes. The most favourable cases were those in which buboes appeared in either the right or the left inguinal region, 49 per cent. of the right, and 50 per cent. of the left inguinal cases recovering. The most fatal cases were the axillary cases, the recoveries being only 25 and 26 per cent. for right and left axillary cases respectively. It was not found that multiple buboes meant a more fatal type of plague; indeed, the prognosis was very favourable, 47 per cent. of the cases recovering. In 70 cases the buboes appeared in unusual situations. For example, in 25 the enlargement appeared under the chin, in 16 at the bend of the elbow, in 9 on the leg, in 5 in the mammary gland, in 5 at the knee, in 3 on the arm, in 2 on the fore-arm, in 2 below the clavicle, and in one instance each on the buttock, shoulder, and popliteal space.

The more frequent complications were pneumonia, albuminuria, erysipelatous inflammation in the neighbourhood of suppurating buboes, and abortion. Pneumonia was not confined to non-bubonic plague, but was a frequent complication of the bubonic disease. There was a difference, however, in the kind of pneumonia met with in the two types. In the words of the report, "the pneumonia of non-bubonic plague was almost invariably 'patchy' and lobular, limited in extent, and not in proportion to the intense gravity of the case. In one case particularly, a very small patch of dulness in the right mammary line, not more than two inches in extent in any direction, but compounded with diaphragmatic pleurisy, was alone found—nothing more was ever diagnosed, although minutely looked for; the patient lived only two days." These remarks refer to the case of the nurse who contracted plague while on duty. In her case the disease began with a rigor and sense of pain all over the body. From the first there were cough and rapid respiration, attended with acute chest pain. The sputum was scanty and serous. It contained the plague bacillus in large numbers, almost a pure culture of a very

virulent organism being obtained on direct inoculation of agar. The albuminuria was mostly transient. In no instance did nephritis become permanently established. Pregnant women nearly always aborted or miscarried ; flooding was frequent in the abortion cases. Of the sequelæ, the most usual were extensive sloughing of the skin and necrosis of bone. Conjunctivitis and pan-ophthalmitis were common. Pelvic abscesses were not infrequent. The most interesting of the sequelæ was the occasional occurrence of paralysis. Paraplegia, hemiplegia, and affections of speech were the usual forms. A peculiar drawl and inability to frame certain words were often remarkable. In some cases the voice had changed considerably, resembling that of a boy at the age of puberty.

Treatment was chiefly directed against the toxic effects of the plague poison on the circulatory system. The disturbances of the heart and of the pulse in plague commonly dominate over all other toxic symptoms of the disease. Even when the patients are in the first stages of the malady (first or second day of illness), and are not obviously ill, the pulse is often very frequent (160 to 180) and compressible ; the heart extremely weak, and its sounds hardly perceptible. Patients in this condition commonly die during or immediately after the disturbance attending their removal to hospital. Sphygmographic tracings taken from such cases show the following characters:—The primary elevation is extremely small ; the angle on the vertex is ample ; the rebound elevation is hardly visible ; there are no elasticity oscillations ; the rhythm is sometimes irregular. Patients with a more typical clinical tableau, and in the third or fourth day of illness have restless, noisy delirium ; sometimes great depression and unconsciousness. They generally die on the fifth or sixth day. Strychnine given both by mouth and hypodermically was most generally useful. Carbonate of ammonia, aromatic spirit of ammonia, and rum were also in constant use. Prof. Lustig, of Florence, visited the hospital in July, 1897, and made a few inoculations with his curative serum, but the numbers treated were too few to allow of any criticism of this method of treatment. Later on in the year, Dr. Haffkine made about 100 inoculations with curative serum after the manner of M. Yersin. The results of his experiments were disappointing. Two patients who were admitted with plague had been inoculated with Haffkine's prophylactic. One of them had received the injection twice at intervals of two weeks. He was inoculated in April, 1897, and contracted plague in January, 1898 ; after a mild illness he was discharged cured. In the other case nine months had elapsed since his inoculation. He also recovered. Both the cases were bubonic in type.—*Edinburgh Medical Journal*, January, 1899.

9.—THE TUBERCULOUS PROCESS IN CHILDREN.

By Dr. DAVID BOVAIRD, of New York.

(1) *The Primary Lesions in Tuberculous Children.*—In 1891 Northrup published in the *New York Medical Journal* a series of 125 autopsies in the New York Foundling Hospital on tuberculous subjects. The conclusions in this paper are based upon the records of a further series of seventy-five autopsies on tuberculous subjects in the same institution. Four cases showed a tuberculous lesion of the bronchial nodes alone, and in none of these did the lesion stand in direct relation to the cause of death. With one exception there was no other case in which the tuberculous lesion was confined to one particular anatomical area. In no case were tuberculous lesions of the intestines or mesenteric nodes discovered without similar accompanying lesions of the lungs and bronchial lymph nodes. In the great majority of cases the tract within which the primary lesion must have been born could be determined. The avenues by which the tubercle bacillus may be admitted into the system were: (a) The placenta; (b) wounds of the surface of the body; (c) the intestinal tract; (d) the respiratory tract. In none of the cases were evidences found of the entrance of the infection by either of the first two routes. The question then lay between the last two routes. In none of the seventy-five cases in which tuberculosis was found in the body was there a failure to find tuberculous lesions of the bronchial nodes. In sixty of these seventy-five cases evidences were found that the entrance of the tuberculous infection took place through the respiratory tract, the primary lesion being either in the lungs or bronchial lymph nodes. In eight cases the lesions of the bronchial and mesenteric lymph nodes were so nearly alike that the question of priority could not be determined. In seven cases the records were not complete.

(2) *The Early Clinical Manifestations.*—In cases in which the bronchial lymph nodes were alone affected no suspicion was entertained until the lesion was found at the autopsy, death having occurred from diseases which had no relation to these nodes. The physical signs usually given as indicating their presence were regarded as insufficient to serve practical purposes. Dulness over the upper part of the sternum, even if present, was more often due to the persistence or the enlargement of the thymus gland than to the enlarged bronchial or mediastinal nodes. The presence of the venous hum over the manubrium on hyperextension of the head was rarely found

to be of any value. In the service of Drs. O'Dwyer and Northrup at the Foundling Hospital the diagnosis of tuberculosis of the bronchial nodes has never been made. Tuberculosis, long latent in the bronchial glands, may be roused and disseminated under the influence of the outbreak of an intercurrent disease, the symptoms of the latter entirely masking the presence of the tuberculosis. On searching the records of cases for the early evidences of the invasion of tuberculosis, only two of importance were found—viz. (1) progressive emaciation, not explained by any other disease; (2) continued elevation of temperature similarly conditioned. It had become the recognised practice that any child over the age of six months, presenting symptoms of marasmus (progressive emaciation), should be carefully watched and examined for some explanation of the wasting, and frequently tuberculosis was the cause finally determined. Persistent fever, not otherwise explained, was also very suggestive, especially under the age of two years, by reason of the relative rarity of typhoid fever at that age. Cases might be met with which ran their course without fever or even with subnormal temperatures. If local signs were to be found they must be sought for in the lungs. Of the seventy-five cases, the lungs were involved in sixty-five, the lesion varying from the smallest miliary tubercles to diffuse consolidation of a whole lobe or an entire lung with caseous degeneration and cavities in the final stages. The early manifestations were confined to râles, usually subcrepitant or coarse. It must be frankly admitted that the points suggested for the early diagnosis of the invasion of tuberculosis were insufficient; they might suggest the possibility of the presence of this disease, but they did not differentiate it. The truth was, that the great majority of young children affected with tuberculosis died without the recognition, often without suspicion, of the presence of the lesions, the disease being most often confused with chronic broncho-pneumonia or entero-colitis.

(3) *Complications and Terminal Lesions.*—These were found either in the extension or intensification of the local process in the lungs and bronchial lymph nodes, or in the general diffusion of the tuberculous infection. In some cases the softening and formation of abscesses in the bronchial lymph nodes had led to death either by extension of the process to the lungs or by rupture of the abscess into either the œsophagus or trachea. More often the process in the lungs led to the formation of large areas of consolidation and finally cavities, the child dying of exhaustion. Cavities were found in twenty-five of the cases. The final stage was more often reached by the dissemination of the tuberculous infection. A general miliary

tuberculosis was recorded in fifty-two of the cases. Little was known of the process by which this dissemination was brought about, but it evidently might occur by the communication of a caseous nodule in the bronchial nodes or lungs with either a blood-vessel or lymphatic. The kidney was involved in thirteen cases, the spleen in thirty-seven, the liver in twenty-eight, the heart in one, the pericardium in two, the peritoneum in six, the adrenals in two, and the brain in twenty-two. In twenty-two cases tuberculous meningitis was found; in all but two the meningitis was either a part of a general miliary tuberculosis, or was accompanied by advanced changes in the lungs—hopeless cases. To summarise briefly the points:—

(i.) The primary lesions of tuberculosis in children was regularly found in the bronchial lymph nodes or lungs. Combining Northrup's series with that included in the paper, we had:—

	Northrup's.	Bovaird's.	Total.
Infection by respiratory tract (bronchial nodes or lungs).....	88	60	148
Infection by mesenteric lymph nodes ...	3	0	3
Intermediate.....	34	15	49
	125	75	220

(ii.) The early manifestations of tuberculosis in children were extremely indefinite and uncertain. (a) Tuberculosis of the bronchial lymph nodes alone could not be diagnosticated with certainty. (b) Latent tuberculosis was often aroused and disseminated by the invasion of another disease, such as measles or diphtheria, the presence of tuberculosis being recognised only at autopsy. (c) The common type of tuberculosis in children was acute miliary tuberculosis; it might occur in well-nourished children. (d) The course of tuberculosis was most often confused with chronic broncho-pneumonia or entero-colitis. (e) The early manifestations, if any, were progressive emaciation, fever, and râles over the lungs; these were insufficient for purposes of differentiation.

(iii.) The terminal lesions comprised: (a) Extension of the tuberculous process in the bronchial lymph nodes and lungs, resulting in the formation of abscesses and cavities—chronic pulmonary tuberculosis. (b) Diffusion of the tuberculous infection, constituting acute miliary tuberculosis, the principal viscera being involved in the following order:—Spleen, liver, kidney, heart. Involvement of the brain was most frequent, the meningitis being regularly fatal. (c) When bone was involved and prolonged suppuration followed, waxy degeneration of the viscera might occur.—*Medical Record*, March 18, 1899.

10.—THE ADMINISTRATIVE CONTROL OF TUBERCULOSIS.

By Sir RICHARD THORNE THORNE, K.C.B., M.B., F.R.S.,
Medical Officer of the Local Government Board.

[The following is taken from Sir Thorne Thorne's Harben Lectures:]

When we compare the vital statistics as to tuberculosis in this country during the early and the later years of a period which well-nigh covers the last half-century, we find as follows:—(1) There has taken place a remarkable reduction in the rate of death from all forms of tuberculous disease, this reduction being most marked during the age-period 10-35 years. (2) There has been a still more remarkable reduction in the rate of death from phthisis, this reduction having been greatest at the several age-periods ranging from infancy up to 35 years. (3) Notwithstanding the fact that at the earlier periods of life there have been reductions in the rate of mortality from the two groups of tuberculous disease referred to, there has, on the contrary, been a large increase in the rate of death from *tabes mesenterica* under one year of age, and such reduction in the rate of death from this cause, as has taken place during the first five years of life, has been altogether insignificant. Among the influences that have been at work in the past I have no hesitation in assigning a foremost place to those administrative measures which have gone so far to secure for men, women, and children the benefits of free movement of air and free access of sunlight as regards both their dwellings and their places of labour. There is abundant evidence of the advantages brought about by metropolitan improvements; and the well-known investigations of Dr. Tatham in Salford have afforded definite proof of the value of this open space in the reduction of that form of tuberculosis in which the infection is mainly conveyed through the air. Thus in districts where all the houses were built on the vicious system known as back-to-back, the phthisis death-rate was 5·2 per 1,000 living; where 56 per cent. of the houses were so built the rate was 3·6; where 23 per cent. only were so constructed it was further reduced to 3·3 per cent.; and, lastly, where there were no back-to-back houses, that is to say, where all houses were provided with some means of light and air both in front and to the rear, the rate was only 2·8. The result is also the more remarkable because, as Dr. Tatham puts it, "with the exception of the means for thorough ventilation, the back-to-back houses, as a whole are in a better sanitary state than the through houses."

Modern research has supplied the explanation of this, for we now know that there are few things more destructive to the bacillus of tuberculosis than exposure to the combined influence of sunlight, or even ordinary daylight, and of movement of air. Such research affords also an incentive to further progress in this matter. Administrative measures, including the adoption of bye-laws as to new dwellings, have also gone to secure much greater dryness of the sites of dwellings than formerly obtained. I refer to the draining of the sub-soil, to the concreting of the ground surface of dwellings, to the provision of damp courses in walls, to the proper collection and disposal of rain falling upon roofs, and to the paving of yards. It is certain that the reduction in the rate of death from phthisis has gone hand in hand with a reduction in soil wetness; and here again we have an indication as to one of the lines of further administrative action in so far as the surroundings of our towns, villages, and dwellings are concerned. I am unable to find in these influences any sufficient answer to the question—Why has there been failure, and even worse than failure, to diminish the toll of death paid by our infant population from that form of tuberculosis which is registered under the name of *tabes mesenterica*? When, however, we remember that in the case of phthisis or pulmonary tuberculosis the tuberculous infection is mainly received aerially, whereas in the case of *tabes mesenterica* it is mainly received by the digestive tract, we get an indication which tends to solve the difficulty. The various administrative measures to which I have thus far adverted have, in so far as tuberculosis is concerned, tended in the main to diminish the chances of the aerial diffusion of the tuberculous infection. They have also tended to prevent those forms of pulmonary mischief which must necessarily facilitate the retention in the tubercle bacillus of its vitality and its power of reproduction when once this pathogenic organism is received into the lungs. Is it possible that during the period in which there has been so vast a saving of human life from that form of tuberculous disease, namely, phthisis, in which the infection is conveyed aerially, there have been in operation one or more influences under which the tuberculous infection has had such increasing facilities for reaching the digestive tract as to have altogether outweighed, at least among our infant population, the benefits which would otherwise have followed a controlling action of the sort to which I have referred? I believe there have; and this leads me to consider how that infection may reach the digestive tract.

Two of the conclusions of the Royal Commission of 1890 will suffice to justify the prominence which is here given to the question of food supplies in relation to human tuberculosis.

One runs as follows:—"Any person who takes tuberculous matter into the body as food incurs risk of acquiring tuberculous disease." The other is:—"No doubt the largest part of the tuberculosis which man obtains through his food is by the means of milk containing tuberculous matter."—*Medical Press and Circular*, February 22, 1899.

11.—SPRUE: SYMPTOMS, ETIOLOGY, POST-MORTEM APPEARANCES, AND TREATMENT.

By JAMES CANTLIE, M.B., F.R.C.S.

[The following is taken from Mr. Cantlie's paper. The author evidently holds strong views on the milk treatment of disease:]

Although sprue is a disease of warm climates, it not infrequently falls to the lot of the practitioner in Britain to have to treat patients suffering from this ailment. Residents in several tropical and sub-tropical countries come home invalided owing to sprue; and not only residents but sailors, more especially those in the navy, who are stationed for three years at a time with a squadron in Indian or Far Eastern waters, are liable to contract the disease.

Definition.—Sprue may be defined as a chronic catarrh of the alimentary canal from the mouth to the anus, accompanied by tenderness of the tongue, diarrhœa of a special character, and an atony and physiological incompetency of the organs and fluids of digestion. Various names are employed to indicate the affection, the more common being "psilosis linguæ" (Thin), "tropical diarrhœa," "Hong-Kong dog," "Ceylon sore mouth," &c.

Etiology.—Many causes of sprue have been advanced, some with a parasitic, some with a malarial, and others with a specific basis. None of these, however, are received as conclusive. The writer believes that sprue is brought about by the nature of the food consumed in persons on whom climate has made its impression.

Signs and Symptoms.—When sprue is well established the following conditions obtain:—The patient usually seeks advice for sore mouth. The tongue is tender not only to mustard, chutnee, and hot curries, but salt, orange-juice, or any mildly-biting substance causes pain. So marked does this tenderness become that even bread cannot be eaten without lingual pain. The tenderness is accompanied by a raw, bare-looking condition of the tongue. The tongue looks abnormally clean, and is at times swollen, at times shrunken. The inside of the cheeks, the lips, and palate seem also stripped of their mucous lining, and

look pale and rather dry. The fauces and pharynx harmonise with the appearance of the cheeks and tongue, and it is probable, even without post-mortem evidence, that an altered condition of the alimentary canal obtains throughout. Acute dyspepsia is not a prevailing symptom, and even the atonic condition is less constant than might be expected. The prevalence of diarrhoea, no doubt, relieves the stomach of its undigested materials and prevents the dyspeptic feeling. The diarrhoea in a typical case of sprue is well-nigh of a specific character until the last stages are reached. The patient is called out of bed in the early morning by a desire to go to stool. Before breakfast a second stool may have passed, and soon after the meal a third. Up to eleven o'clock, in fact, stools may pass at intervals of one and a half hours, or less, but after that the patient is but seldom disturbed. The stools are of a pale, pipe-clay colour, at times quite fluid, at times like mud in consistence; or, again, frothy, fermentative, and bulky. The consistence of the stools harmonises with the state of the mucous membrane. During an acute spell of "tender tongue," associated with stomachic and intestinal catarrh, the stools are of a fluid character. As the acute attack, which usually lasts some three weeks, is wearing off, the stools are frothy and bulky; but when the catarrh is at a minimum the stools are muddy in consistence. It would seem when diarrhoea is marked, as though the stools passed before fermentation had developed; that when the contents of the bowel were longer retained the intestinal fermentation had begun, but was not completed, before the motion appeared; and that when irritation of the intestine is slight or in abeyance the butyric and other fermentations were completed before the stool was passed. The colour of the stool indicates the absence of the bile-colouring matter, and the condition of the stools indicates that both the bile-acids and the pancreatic juice are functionally incompetent. With the continuance of the disease the patient loses weight, the skin becomes dry and harsh, fat disappears from the tissues, and the abdomen may become quite concave or distended with flatulence.

As regards appetite, there is usually a craving for food of all kinds, but more especially of an indigestible character. "Feverishness" obtains intermittently. At the onset the temperature keeps persistently above the normal, varying between 99° and 101° , or 102° . When the disease becomes chronic, the temperature is usually subnormal, rising above the normal only when an acute attack of catarrh and "tongue tenderness" is present. In the later stages, when a fatal issue may be anticipated, the temperature in some cases rises to 102° or 103° , and may remain at that height for weeks or months.

before death. When sprue has persisted for some months, it will be found that the liver has shrunk considerably; so marked does this feature become in time that it is with difficulty in many cases that hepatic dullness can be elicited, the right lung resonance passing on to the colic or stomachic, with but an impaired dullness only in the region of the liver in the nipple line. When a deep breath is taken, and the liver palpated or percussed, no tenderness is usually to be made out. The spleen cannot, as a rule, be felt, and the abdomen generally presents an attenuated appearance. When the patient is over 50 years of age the prognosis is extremely unfavourable. With the advance of the disease the patient becomes weaker and extremely emaciated; a trace of albumin appears in the urine, the stools are frequent, and a two-o'clock-in-the-morning stool is almost a constant feature. A basal congestion, especially of the right lung, supervenes, the ankles swell, the pulse grows more feeble, and the patient dies of exhaustion. In many cases a low form of pneumonia or sudden failure of the heart carries the patient off.

Pathological Anatomy.—The post mortem appearance of the body generally in sprue is one of “death by starvation.”

Treatment.—The treatment of sprue resolves itself into one of diet almost entirely. Drugs play but a small part in the treatment, and their employment with any specific notion is not to be calculated upon. Of drugs, rhubarb in very small doses benefits, and arsenic in minute quantities seem to do some good. When sprue is established, removal to a temperate climate is well-nigh imperative if a permanent cure is to be brought about; but even in the tropics the disease can be combated with fair hopes of success, unless the patient has been a sufferer for some years. The usual treatment for sprue is to put the patient on milk—in fact, it differs in no way from the treatment of most other diseases in following the milk fetish. It is the fashion, be the illness inflammatory or functional, to put our patients on milk. Now, milk is not a food used by adults in any country, temperate or tropical. Were the liver trained to accommodate itself to deal with a huge quantity of milk from childhood upwards the case might be different. I would at once condemn this method of treatment, and pronounce against it with all vehemence. Milk is useful when the object is to keep the patient alive merely, but it does not cure the patient by restoring the organs of the alimentary canal to a healthy state. That state is one of functional inactivity and tissue atrophy. Under an exclusively milk diet the patient may for a time increase in weight and even in strength; but, with or without any accession to the dietary, the relapse comes, and the patient is in no better visceral state than before the treatment began.

The writer, after considerable experience of the milk treatment, has given it up as a means of curing sprue. Only by the exhibition of a "meat" diet, in some form, can the action of the liver and other organs be called into play, and it is by the administration of such foods that a cure can be effected. Even when the patient is very low—so weak as to be confined to bed—may this *régime* be commended. The patient, if very reduced, must be fed frequently—it may be every quarter of an hour. The diet would then consist of a teaspoonful or a dessertspoonful of beef juice, made from the fresh beef, not the prepared article; scraped beef, raw meat, beef jelly, calf's-foot jelly, or even plain jelly. As a drink, plain hot water in considerable quantity may be given with benefit. Whey, made by precipitating the curd of milk by rennet, or rice water, made by roasting (not boiling) rice until it is brown and then pouring boiling water over it, are excellent drinks, quenching the thirst and providing nourishment.

As the patient's strength improves, as in all probability it will, the intervals of diet may be increased and raw meat sandwiches given occasionally. Soon finely minced beef, passed thrice or oftener through the mincing machine, beaten up into a thick cream with a little water and with salt added, is to be gradually "warmed" in a saucepan and given in small quantities, according to the strength of the patient. As the condition improves, a baked apple may be added to the diet and the simplest form of diabetic bread. Subsequently the patient is to be kept on under-done meat, chicken cream, steamed chicken, game; and, if the diarrhœa is in abeyance, rice, well steamed and dried, is tolerated when the simplest form of pudding will cause diarrhœa or flatulence. Should the patient not be alarmingly feeble, he may be placed on meat, thoroughly minced and carefully "warmed," at once, giving 5 oz. at a time and thrice daily. Between meals the patient is to have beef jelly, chicken jelly, or plain jelly, to satisfy the cravings of appetite, for he must never be allowed to be hungry. When the patient wakes at night he must be fed systematically. The very first meal of a "meaty" nature will bring down a bile-stained motion. Pent up so long, there is a tendency for bile to cause looseness, which, however, must not induce the practitioner to change the diet or to administer drugs whereby to check the diarrhœa. It is an axiom in the treatment of sprue, that astringents, given with the purpose of arresting diarrhœa, are a mistake. When the diarrhœa increases, or the stools show signs of fermentation, the writer invariably administers a teaspoonful or two of castor oil, with the object of sweeping away the offending material, instead of attempting to retain it in the bowel to work further mischief. The shrunken liver

will by this treatment be found to increase rapidly in size, the distension or retraction of the abdomen will subside, but the cure will not be effectual until the liver regains its normal size. As adjuncts to this system of diet, the patient must be kept in bed, it may be, for a few days only. A wet pack, warm at first, but used cold as soon as possible, should be applied to the abdomen night and morning for two hours at a time. The "pack" must be kept firmly in place, so as to exercise some compression, by a large bath towel wrapped round the body, pulled tightly, and secured by safety pins. Between the applications of the wet pack a pad of flannel or cotton-wool, also tightly supported by a body bandage, should be placed over the abdomen.—*Practitioner*, December, 1898.

12.—THE PRESENT STATUS OF THE ANTI-STREPTOCOCCUS SERUM.

By F. J. COTTON, M.D., Boston.

[Dr. Cotton first reviews the laboratory data forming the basis of this treatment. He then gives a full account of the clinical evidence in regard to the use of this serum, especially in puerperal fever, sepsis, erysipelas, scarlet fever, and concludes his paper as follows:]

With so large a number of clinical cases on record, it would seem possible to draw some conclusions, but unfortunately many of the cases are not so presented as to be of any particular value, and such conclusions as can be drawn must be mainly negative. Before drawing conclusions as to the value of any remedy one must either see its effect in disease ordinarily running a definite typical course, or there must be a decided drop in a heavy mortality, or else an opportunity to compare long series of cases with and without the given treatment under otherwise like surroundings. In the present case the first two conditions are in no way fulfilled, the third only apparently. Apart from Marmorek's own cases, a large proportion of the cases of all sorts have been reported in ones or twos by different observers. This is, at best, a poor way of getting statistics, and here especially unfortunate, since these are just the sort of cases where the personal equation should enter in as little as may be. This criticism applies to all the series recorded, with the exception of the scarlet fever cases. This scarlet fever series we can set aside; the case is not proven, and is, at best, not really relevant. Nor is much to be made out of the cases of local

and post-operative sepsis ; serum and surgery are too hopelessly mixed. The cases of general infection, puerperal fever, and erysipelas are more directly available. In the series of cases of general sepsis there are some in which the diagnosis is not quite satisfactory ; others, on the other hand, of recovery which is surprising under the conditions actually shown. Cases recovering after streptococci were found in the blood are surely striking, but it must not be lost sight of that the clinical course of these cases was not unusual, the happy result not always being very directly attributable to the serum, and that such recoveries are not entirely unknown where no serum-therapy has been employed.

In the puerperal cases the difficulties are :—(1) The cases are mainly isolated observations by different observers ; (2) many cases reported are without any bacteriological evidence ; (3) the course of puerperal fever is most varied, the prognosis notoriously uncertain ; (4) many of the reported cases were efficiently treated surgically as well as by serum. It is hard to draw just conclusions under these circumstances. The mortality, 32.3 per cent., cannot be called low, even granting that the series includes many desperate cases. It is perhaps not fair to compare this with any ordinary series of cases of puerperal sepsis, but certainly on such figures as a basis there can be no talk of any considerable reduction of mortality. In individual cases the use of the serum would seem to have helped definitely, but these are more than counter-balanced by cases of streptococcus infection alone where no effect whatever is to be attributed to the serum. The irregularity of course in puerperal fever, the difficulty of distinguishing the results of other treatment from those of the serum, cannot be too clearly borne in mind. In a proportion of cases, however, there does appear, apparently as a definite result of the use of the serum, a marked improvement in subjective condition, in the pulse, and often in the temperature. This is by no means constant, and apparently bears little if any relation to the general course of the infection, but it seems definite and must mean something. In the erysipelas cases, again, the mortality figures are not convincing, for, as Therese points out, the ordinary mortality varies from 1 to 5 or 6 per cent., while Marmorek's figure was nearly 4 per cent. Here again there appears the same improvement in subjective condition, pulse, and temperature following injections, but more often in this erysipelas series, and often accompanied by a rapid improvement in the local process. This is noted by Rondot as well as by Marmorek. Unfortunately, even here, Petruschky's experiments with inoculation erysipelas and serum must make us a little conservative in interpreting the clinical notes.

Probably no one will now contend that the antistreptococcic serum is, broadly speaking, effective against streptococcus infections. Beyond a doubt a certain degree of passive protection is possible in the laboratory, and probably something of the sort is possible in man. There seems, in view of recent work, no ground for drawing sharp distinctions between alleged species of streptococci, and, though it would be a mistake to assume too close a parallel between the conditions of infection in man and in animals, yet probably a serum really effective in protecting rabbits against streptococci would afford some aid to the human organism in its struggle against a like infection. It is likely enough that this is the explanation of the temporary relief of symptoms so often noted. It does not seem that this represents a strong action against the infection, but it is something, and in many cases a very little may turn the tide. This seems reason enough to give the serum further trial—as a symptomatic treatment if no more. There seems to be no good reason against its use. Urticaria, erythema, joint pains, &c., are of not uncommon occurrence, but of no great moment. Abscesses at the point of injection, sometimes containing streptococci, are not rare, and would indicate care in using a bacteriologically tested serum. Bué and Thomson have thought the serum a cause of albuminuria, but this must be either unusual or slight, judging by reports. If the serum is to be used in earnest it should be used in considerable doses. Probably in many cases the dosage has been too small. To protect a rabbit against a ten times fatal dose needed 0·2 centimetres of Marmorek's serum; this is $\frac{1}{5000}$ th the body weight, corresponding to about 10 centimetres in man. The potency of different makes of serum varies, and they seem to lose notably by keeping. Hence, while there are no accurate data for dosage in man, yet the problem is not to protect against an infection, but to cope with an infection in full swing, and that with a serum of doubtful efficacy. The needed dose will probably be large, if anything is to be accomplished. The limit of dosage must vary, but the untoward effects above noted are not frequent, and plenty of cases have borne 25 cubic centimetre doses. In one case a total of 1,030 cubic centimetres was given, though this in a case of some duration; there were no ill-effects beyond a slight erythema. There seems, then, some reason for continuing the use of the serum in cases of demonstrated streptococcus infection. Care is needful in selecting the serum to be used. It should be used, if at all, in considerable amount; and, above all, until more evidence of its power is forthcoming, it should be used as an adjunct only, and never to supplant or modify other treatment of the case.—*Boston Medical and Surgical Journal*, February 2, 1899.

13.—HYPERPYREXIA IN RHEUMATISM.

By Dr. H. G. LANGWILL.

The author (*Scottish Medical and Surgical Journal*, February, 1899) thus sums up an exhaustive and interesting paper on the Treatment of Hyperpyrexia in Rheumatism :—

“Briefly, then, I would venture to suggest the following as a summary of the chief points in reference to the prophylaxis of rheumatic hyperpyrexia :—(1) Cases in which the pyrexia shows a tendency to rise instead of decline under full doses of the salicyl compounds, and in which no intercurrent condition can be detected which might account for the increasing pyrexia, should be treated at once by cold applications without waiting for the onset of nervous symptoms or other prodromata of rheumatic hyperpyrexia. (2) When delirium appears in a case which exhibits pyrexia, and no intercurrent visceral complications can be made out which might account for its presence, the immediate employment of cold is called for. (3) Should delirium appear while the temperature remains normal, a mild form of cold application—*e.g.*, an ice-cap to the head—should be employed, and on the appearance of pyrexia more vigorous methods ought to be adopted without waiting for any extreme degree of pyrexia (*e.g.*, 105°) to be reached. (4) Cases in which the hyperpyrexia is, as it were, accidentally discovered to be present offer, of course, no field whatever for prophylaxis, but treatment by cold should be commenced at once without waiting for the appearance of nervous symptoms or attempting to reduce the temperature by means of any antipyretic drugs.”

Finally, he says :—“The main conclusions I would draw from the consideration of the whole subject of hyperpyrexia in rheumatism are these :—(1) That the condition is more prone to occur in the warmer months of the year, and apparently with greater frequency in certain years. (2) That while it is very difficult to estimate at all accurately the frequency of its occurrence, probably this is about 0·5 per cent. among adult cases of rheumatism. (3) That the occurrence of hyperpyrexia in rheumatism is practically confined to cases of this disease in persons over fourteen years of age. (4) That the rare instances of hyperpyrexia which occur under that age are in cases of rheumatism which present the adult type of the disease. (5) That the absence of hyperpyrexia from rheumatism in children is probably to be explained as the result of the type rheumatism assumes in them rather than a mere question of the age of the sufferer. (6) That males show a much greater proclivity to the condition than females,

which may possibly be associated with the greater strain habitually put upon their thermotaxic mechanism. (7) That the condition is most apt to occur in 'first attacks' of rheumatism. (8) That persons who have once suffered from the condition would probably be apt to have a recurrence of it in any subsequent attack of the disease (although no case of such recurrence has previously been published). (9) That it may ensue at any stage in an attack of rheumatism, but probably the second week is the most common period of its occurrence. (10) That it may arise even in mild cases of rheumatism, severe rheumatic symptoms being no essential to its occurrence. (11) That the onset of hyperpyrexia, while occasionally without warning, has usually premonitory symptoms, the chief of which is delirium. (12) That cases of true rheumatism showing persistence of the pyrexia, in spite of full doses of the salicyl compounds, should be most carefully watched, since hyperpyrexia frequently ensues in such instances. (13) That sudden cessation of the articular pains without coincident fall of temperature should lead to the suspicion of hyperpyrexia, especially if attended also by the cessation of sweating. (14) That MacLagan's hypothesis that hyperpyrexia is due to paresis of the heat-inhibiting mechanism from exhaustion in its attempt to control the excessive heat production of rheumatism, is the most feasible theory yet put forward in explanation of the condition, satisfactorily accounting for the more frequent occurrence of hyperpyrexia in adults than in children. (15) That the absence of rheumatic hyperpyrexia in children is a strong argument against the view that this condition is due to visceral complications, since it is especially in children that these visceral manifestations occur, and it is just in those cases that hyperpyrexia is not found. (16) That in view of the resemblance in several respects between rheumatic hyperpyrexia and 'diabetic coma,' further investigation of this subject might possibly throw fresh light upon the pathogenesis of both conditions. (17) That while the mortality of rheumatism is only about 3 per cent., hyperpyrexia is probably one of the most important immediate causes of death in this disease. (18) That the mortality of hyperpyretic cases is very high, probably over 50 per cent., but statistics are very variable because—(19) The mortality is greater the higher the temperature before treatment is begun; and (20) it is also greater among cases treated by means of antipyretic drugs alone. (21) That treatment by the application of cold in one of its various forms is the only justifiable method in cases of hyperpyrexia in rheumatism. (22) That this should be adopted even in cases apparently moribund, and even although visceral complications may be present.

(23) That while there may possibly be some risk of congestion of internal organs as a result of this method of treatment, this does not justify the neglect of what is practically the only remedy for an otherwise fatal condition. (24) That the greatest care should be taken to prevent collapse ensuing in the patient as a result of the treatment by cold, which should be stopped entirely before the treatment falls to normal. (25) That antipyretic drugs, while practically useless in the treatment of hyperpyrexia when present, may perhaps be of some service in preventing a recurrence of this after the temperature has once been reduced by means of cold. (26) That in obstinate cases of recurrent hyperpyrexia the method of treatment by 'disintoxication of the blood' adopted by Barré may probably be of service as an adjuvant to the treatment by means of cold. (27) That a greater attention should be paid to the prophylaxis of rheumatic hyperpyrexia, and that more prominence should be given to the advantage of commencing treatment by cold at an early stage before excessive temperatures are attained; in other words the general condition of the patient, rather than the mere height of his temperature, should be the determining factor for commencing the treatment by cold. (28) That early and complete subjection of the patient to anti-rheumatic treatment would probably have some influence in preventing the occurrence of hyperpyrexia."—*New York Medical Journal*, March 4, 1899.

14.—RHEUMATIC TONSILLITIS.

By Dr. BERTRAM ABRAHAMS.

[Abstract of paper read before the meeting of the Clinical Society of London:]

The material upon which this paper is based is mainly composed of cases of rheumatic tonsillitis observed by the author during the last three years. A large number of cases of chorea, rheumatism, and cardiac disease, both in adults and children, have been investigated and tabulated, and the resulting statistics compared with those of previous observers in order to ascertain as accurately as possible the relation of the throat affection to the rheumatism. The bacteriology of many of the cases has also been studied with a view to obtaining some light upon the ætiology of the disease itself. The bulk of the work, in so far as it relates to children, was done in the out-patient department of the Evelina Hospital for Children. Dr. George Carpenter was kind enough to permit the use

of the material, and also to allow the results to be compared with his own works for the last ten years. Details are given in the paper of a number of cases illustrating :—(1) The occurrence of endocarditis after non-scarlatinal tonsillitis without the intervention of arthritis or chorea ; (2) tonsillitis immediately followed by a first attack of chorea ; (3) repeated attacks of chorea, each preceded by tonsillitis ; (4) the occurrence of sore throats at various points in the rheumatic series. Clinically, five varieties of rheumatic throat affection may be distinguished. (1) Faucial erythema, the pharyngeal inflammation described by Trousseau as ushering in an attack of acute rheumatism. (2) Follicular tonsillitis. (3) Quinsy. Between these latter no pathological distinction can be at present drawn, though it is notable that when a patient has repeated attacks they are almost always solely of one kind or the other, an alternation being rarely observed. As is also the case with non-rheumatic forms, the follicular variety is commoner in children, the quinsy in adults. (4) The abortive form described by Singer (*angine rhumatismale* of French authors), in which the joint and muscle pains are vague, is not so frequent as he states. No case should be included under this head in which there is not adequate personal or family history of rheumatism. After making this observation a considerable number of instances remain, the most noteworthy point about which is their liability to die suddenly from cardiac failure. (5) Chronic rheumatic tonsillitis is described by Dr. Max Thorner; this affection is more probably gouty in nature. A statistical inquiry was made into consecutive cases of three distinct affections, namely, 248 of chorea, 43 of acquired heart disease in children unassociated with chorea, and 66 of rheumatic fever in adults. Of the choreas in which a reliable history was obtainable, 53·4 had a family or personal one of sore throat. This history was not associated with any marked predisposition to either arthritis or heart disease. Of the cardiac cases 66·7 per cent. gave a history of throat affections. Among the adults 45·5 per cent. had a definite throat history, 21·2 per cent. had suffered from ulcerated throats within three weeks of the attack of acute rheumatism, and 47·2 per cent. showed faucial erythema within two days from its onset. In children, where the commencement is insidious, faucial erythema is extremely rare. On the other hand, a large proportion of them had follicular tonsillitis when first seen, several being brought up on its account and either revealing cardiac disease when examined or developing chorea while under observation. There seems little reason to doubt that in many of these cases the tonsils may have been the channel of infection; this is, of course, by no means invariably true, as the sore throat is often a late term in the rheumatic

series. Bacteriological examination of the tonsils and their exudation in a large number of cases revealed the constant presence of strepto- and staphylococci, the former more frequently, but the latter oftener in pure culture. Similar organisms were found in the urine drawn from the bladder with all antiseptic precautions. Taking these results, together with the discovery of the same microbes in the blood and affected joints in acute rheumatism by Sahli and others, the probability of the occurrence of infection through the tonsil becomes very strong. It is believed by many that the rheumatic patient is poisoned by the attenuated virus of a germ which when fully active leads to pyæmia. The following conclusions are put forward :—1. The more common varieties of rheumatic sore throat fall into two main categories, faucial erythema and tonsillitis proper. 2. Faucial erythema is most common in adults, rheumatic tonsillitis in children, in whom it usually assumes the follicular type, quinsy being more frequent in older subjects. 3. Faucial erythema is an initial manifestation of acute rheumatism; tonsillitis may be the actual primary lesion. 4. Many cases are now definitely on record in which endocarditis has followed a non-scarlatinal tonsillitis unaccompanied by joint pains. In numerous other instances the tonsillitis has immediately preceded an attack of arthritis or of chorea. 5. The presence of the same micro-organisms in the tonsils, joints, blood, and urine is evidence in favour of the participation of pyogenic cocci in the etiology of rheumatism.—*The Medical Press, February 1, 1899.*

15.—THE TREATMENT OF GOUT, RHEUMATISM, AND OTHER AFFECTIONS BY THE ELECTRO-THERMIC GENERATOR.

By ARTHUR P. LUFF, M.D. Lond., B.Sc., F.R.C.P., Physician
in Charge of Out-patients in St. Mary's Hospital.

[The illustrations representing the generators as adapted for the arm, leg and foot, both legs and feet, are omitted here.]

The apparatus for the therapeutical employment of superheated dry air described in this communication is the "Greville" Electro-thermic Generator. The principle of this generator is the production of superheated dry air by means of electrically heated wires. The generator is made of an external case of aluminium and an internal perforated metal cylinder. Between

the external case and the internal cylinder sections of wire suitable for electric high resistance are stretched, the ends being attached to terminals outside the generator, to which the electric current can be conveyed from an ordinary wall-plug, or by means of an adaptor inserted in the place of an ordinary incandescent electric lamp. Owing to the resistance to the passage of the current through the sections of thin wire heat is produced, so that the temperature of the interior of the generator can be raised up to 400° F. A suitable temperature is maintained by switching on or off different sections of wire. Special generators are designed for the treatment of the leg, arm, knee, hip, elbow, shoulder, spine, &c. The generators are padded inside, so as to effectually prevent any contact of the limb or any part of the body with the inner perforated metal cylinder. Around the entrance of the generator is attached macintosh sheeting lined with asbestos cloth, which is wrapped or tied around the limb outside the generator to prevent escape of heat. If the knee only is required to be treated, a shorter generator, open at both ends, is employed, so that the foot and part of the leg project through the lower opening. Both ends of such a generator are provided with macintosh sheeting lined with asbestos cloth, which can then be tied around the limb above and below the knee-joint, so that only the one joint is enclosed in the hot-air bath. One great advantage possessed by these generators over other methods of hot-air treatment is the facility with which local treatment may be applied to a joint, limb, or other affected part without the immersion of the entire body, as in the case of the Turkish bath or of the ordinary vapour bath. The employment of electricity as the source of the heat is also eminently preferable to the production of heat by combustion, as no injurious products have to be inhaled by the patient. The only other forms of apparatus with which I am acquainted, in which heat produced by the electric current is employed as a therapeutic remedy, are the "Dowsing System" and the ingenious apparatus described by Dr. William Taylor for the treatment of neuralgia and rheumatism by currents of hot-air, the heat being obtained by means of the electric current, and the hot-air blown on to the affected part by a rotatory fan. Each hot-air bath should last on an average from 40 to 45 minutes, and the temperature as registered by the thermometer placed in the side of the bath should average from 300° F. to 340° F. I do not think that this represents the temperature of the air close to the skin, but it represents the temperature which can be safely borne by the patient in this form of generator, and which produces beneficial results. The limb or affected part should be wrapped in lint prior to its introduction into the generator. Perspiration of

the part to which the heat is applied occurs, and the perspiration may become general if a large area is being treated. The body temperature is generally raised one, two, or occasionally three degrees, but falls very shortly after the discontinuance of the bath. I sometimes order the baths on alternate days, but more frequently two a week, with intervals respectively of two and three days. As this communication is intended only to be a preliminary one, I do not propose to enter into details of the various cases in which I have employed the electro-thermic generator. It will be sufficient to state that I have treated several cases of gout, rheumatism, and rheumatoid arthritis, the majority of them with very beneficial results. As far as my present experience goes, the process is especially useful in selected cases of gout and rheumatism, but is apparently less useful in rheumatoid arthritis. I am at present unable to give any definite explanation, based on scientific data, of the mode of action of this superheated-air treatment. I am starting a series of investigations of the matter in order to ascertain the effect of the treatment on elimination, and also as to whether it causes any variations in the alkalinity of the blood. I hope in a few months to publish the results. In the meantime, I am of opinion that an explanation of the beneficial effects of the hot-air treatment is to be found in the increased circulation that is locally promoted, and probably also in an increase of local metabolism. It is just possible also that, in addition to the heat, the inductive influence of the magnetic waves arising from the electrically heated wires may be a factor of some therapeutical importance.—*The Practitioner*, February, 1899.

16.—ICE OR HEAT AS A LOCAL APPLICATION ?

By WILLIAM EWART, M.D. Cantab., F.R.C.P. Lond.,
Senior Physician at St. George's Hospital, &c.

[The details of the cases and other parts are omitted here :]

Few of our therapeutical inconsistencies are more surprising than our employment of the opposite extremes of temperature for similar conditions. For the relief of painful affections both fomentations and ice have been advocated, and in the treatment of acute chest affections the ice-bag has entered into keen competition with the poultice and, it is claimed, with greater efficacy. The practical question may often be answered by the patient, but it would be well if from our side some estimate could be arrived at concerning the mode of action and the

relative value of cold and of hot applications. This question is opportune in connection with the recent methods of treatment by superheated air; and in painful forms of arthritis, such as those observed in the following cases, we have favourable material for study, since in them we obtain, in addition to the patient's statement as to pain, direct evidence from any changes brought about by treatment in the appearance and mobility of the joints. Ice-massage, or gently rubbing the exposed surface with a smooth block of ice for a few minutes, resembles Arnott's method (1851-64) by the direct application of ice rather than Esmarch's method (1860) by a continuous application of ice-bags. This device suggested itself to me whilst I was still unacquainted with the work of these observers as a possible mode of relief in a case of acutely painful rheumatoid arthritis of the hip in which the ordinary treatment by medicines, by warmth, and by the hot-air bath had been tried without success, and in which finally the application of hot sand-bags seemed to aggravate rather than to relieve the affection.

[The author then gives details of three cases treated by ice-massage. (1) Painful rheumatoid arthritis of the left hip. (2) First acute attack of rheumatoid arthritis. (3) Pemphigus with acute and painful joint affection.]

These cases all agree in two respects; the relief afforded to the pain was immediate, and it lasted each time for a considerable period. This circumstance is a recommendation for the method of ice-massage as distinct from the continuous application of the ice-bag. The experience which may be gathered from the literature on the subject shows that other cases would be likely to benefit, and that great relief might be afforded to the severe articular pain of acute rheumatism—although the rapid subsidence of the pain and swelling now obtained under salicylates renders local treatment almost superfluous—and to various forms of neuralgia. The value of cold as a means of subduing pain and checking inflammation has long been known, but its popularity as a therapeutic agent seems to have fluctuated. Among its most strenuous advocates within modern times have been James Arnott and Professor Esmarch. It is interesting to note that Arnott's method has recently been revived for the cure of some laryngeal affections. Abrams reports in the *Therapeutic Gazette* the immediate cure of functional aphonia by freezing the skin with the methyl chloride spray over the spot where the superior laryngeal nerve sends its internal branch into the larynx. In some cases he has had to repeat the process. In other neuroses of the larynx, such as laryngismus stridulus, spastic aphonia, and the laryngeal crises of tabes, he has found it of value. He also

refers to its efficacy in neuralgia and in peripheral neuritis, and to the lunar applications of extreme cold practised in France under the name of stypage for the relief of neuralgia.

Since writing the preceding lines I have had experience of the value of ice-massage as a means of relieving the severe pleuritic pain which commonly accompanies acute pneumonia of the base. The results were encouraging. In the two patients treated the relief of the pain was immediate, and the application was welcomed as a comfort. The relief in one of the cases lasted for several hours, but it was not permanent. This suggests that the frequency of applications might be arranged to suit each case. Although dealing with the local effects of cold this communication would not be complete without a reference to another mode of application successfully employed by Dr. Beverley Oliver Kinnear, of New York. Dr. Kinnear has recorded remarkable results from the systematic use of the spinal ice-bag in chronic rheumatism and in lumbago, both chronic and acute; and he has found the same method of great benefit in various other affections.—*The Lancet*, April 8, 1899.

17.—THE TREATMENT OF MYXŒDEMA.

By GEORGE R. MURRAY, M.A., M.D. Cantab.,
F.R.C.P. Lond.,

Heath Professor of Comparative Pathology in the University of Durham; Physician to the Royal Infirmary, Newcastle.

[The following is taken from Dr. Murray's Goulstonian Lectures:]

Treatment of Myxœdema by Thyroid Extract.—In primary and secondary myxœdema in man we see the results of loss of thyroid secretion pure and simple, and consequently are able to remove the symptoms entirely by giving a sufficient supply of the secretion. We may now briefly consider the method of carrying out this treatment of myxœdema. The main objects of the treatment are to remove the symptoms by restoring normal metabolism as rapidly as possible without risk to the patient, and when this has been accomplished, so to regulate the treatment as to continue the supply of thyroid secretion in sufficient quantity to maintain the normal rate of metabolism of the tissues generally. For this purpose the treatment is divided into two stages. During the first stage the tissues are gradually brought back to a normal condition. This may, according to the severity of the symptoms, require from one

to three months. As soon as the symptoms have entirely disappeared the first stage is completed. The condition of the atrophied thyroid gland is not influenced by the treatment, so that if the artificial supply of secretion is discontinued at this or any other time of the patient's life all the symptoms of myxœdema will gradually return, as I have found by actual experience. Thus the second stage of the treatment of necessity lasts as long as the patient lives. It is therefore necessary to make the permanent daily dose as nearly as possible equivalent to the normal amount of secretion. If the dose falls below this, slight symptoms of myxœdema will reappear, and if it is excessive a condition of thyroidism will be produced.

Preparations of Thyroid Secretion.—Thyroid secretion can be given in several different forms. The actual gland itself containing the secretion may be used, and is a useful form when the patient lives in some remote place, or when it is necessary to make the treatment as inexpensive as possible. Arrangements can easily be made for the regular supply of one lobe of the thyroid gland of a freshly-killed sheep twice a week by a butcher who has once been shown where the gland lies and the ease with which it may be removed. From one-eighth to one-quarter of a lobe is a suitable daily dose of the sheep's gland, one-quarter of a lobe being equivalent to about ten minims of liquor thyroidei. As the raw gland is somewhat nauseous it should be minced and taken in glycerine or some similar vehicle in order to make it palatable, or it may be lightly cooked on the outside by frying or boiling before it is eaten. As a rule, it is much better to employ one of the preparations of the thyroid gland rather than what may be termed the crude drug itself. Of these two are now official, liquor thyroidei and thyroideum siccum, the former of which is simply the original liquid thyroid extract. The liquor thyroidei is the most convenient preparation for general use, and in my experience the most efficient. It is prepared from a considerable number of glands at a time, so that the strength is uniform. In prescribing it should be ordered in the undiluted form, and not more than a sufficient supply for a fortnight should be obtained at one time. The patient must be provided with a minim measure glass and measure out the dose of five or ten minims as the case may be, adding a dessertspoonful of water at the time it is taken. This preparation is conveniently given in a single daily dose at bedtime. The dry thyroid of the Pharmacopœia may be given as a powder or made up into a pill or tablet. If the dried preparation becomes damp at all it is liable to decompose, and become unfit for use.

Method of Treatment.—In advanced cases the first stage of the treatment must be carried out with great caution, especially if any symptoms of degeneration of the cardiac muscle, such as attacks of syncope, dyspnœa on exertion, feeble or irregular pulse, or weak heart sounds are present. Under these circumstances the patient should be confined to bed at first and only small doses of from three to five minims of liquor thyroidei given each night. This dose if well borne may be gradually increased up to ten minims. If not confined to bed these patients are apt to make use of their returning vigour too soon, before the heart has had time to recover and to adapt itself to the altered conditions brought about by the treatment. These advanced cases in which little exercise has been taken for months or even years are now rare, but in the early days of the treatment the importance of this caution was painfully impressed upon me by the deaths of two patients from syncope who had cardiac disease, after they had practically got rid of the symptoms of myxœdema. Any undue acceleration of the pulse up to 90 or 100 indicates that a reduction should be made in the dose, and any signs of cardiac failure must be met by giving stimulants and digitalis. By far the greater number of cases which require treatment are now seen in the early stages of the disease before any cardiac symptoms have developed. In these the patient is able to go about as usual, though it is advisable to avoid any unusual exertion during the first stage of the treatment. A daily dose of ten minims of thyroid extract may be given each night from the beginning and increased to fifteen minims at the end of a fortnight if decided improvement has not already taken place. Any marked increase in the frequency of the pulse or rapid loss of weight is an indication for at once reducing the dose. Symptoms of gastrointestinal catarrh have sometimes arisen during this first stage of the treatment, especially if the raw gland has been used. They rarely if ever appear if a suitable preparation of the gland is used instead. If they do occur the thyroid treatment should be stopped until they have passed away, and then smaller doses should be given when the treatment is again commenced. In many cases no other treatment beyond the daily dose of thyroid extract is required. When, however, there is a well-marked anæmia it is a good plan to give iron as well as thyroid extract. Five grains of dried sulphate of iron in a pill twice or thrice daily after meals is a suitable form in which to give it. As soon as all the symptoms of myxœdema have disappeared the first stage of the treatment is completed. The second stage then commences, and must of necessity last as long as the patient lives. During this stage the patient must continue steadily to take a daily dose of thyroid extract

equivalent to the daily output of the gland before it becomes diseased, or at any rate of that part of it which has become functionless. It is important that patients should understand this, and that good health can only be maintained by the continued use of the remedy. To ensure this it is often better to describe the remedy as an essential part of the daily diet, and not as a medicine so as to overcome the objection some persons have to taking what they regard as a medicine for such long periods. Of course, an occasional intermission of the treatment for a week or so has little or no effect, but if no thyroid extract is taken for three or four weeks the temperature falls one or two degrees below normal, and the myxœdematous swelling of the face begins to develop again. If the extract is omitted for a longer period still all the original symptoms gradually reappear, till at the end of three or four months the condition will be much the same as it was before any treatment was adopted. The most suitable dose for the second stage of the treatment is, generally speaking, ten minims of the extract given once a day. If after a time any slight symptoms of myxœdema reappear the permanent dose should be increased to twelve or fifteen minims. In none of my own cases has it been necessary to give more than ten minims; in a few cases this dose is too large, as after a time it produces acceleration of the pulse. The permanent dose has then to be fixed at five or seven minims a day. In doubtful cases of myxœdema thyroid extract may be given as a means of diagnosis. For this purpose a dose of ten minims should be given daily for three or four weeks. If the symptoms steadily diminish they are the result of thyroidal disease; if, on the other hand, no improvement takes place they are due to some other cause. This test is of great use in distinguishing some of the cases with anæmia and subcutaneous swelling from cases of anæmia with ordinary obesity which they often closely resemble.

Results of the Treatment of Myxœdema.—When the treatment of a well-marked case of myxœdema is carried out on the lines just indicated, very definite and interesting results are soon obtained. One of the earliest signs of improvement is in the return of the temperature to the normal level. This is illustrated by one case in which the temperature before treatment ranged from 95° to 96° F., whereas during the second, third, and fourth weeks of treatment it varied between 96° and 98°. As the temperature rises to normal the former sensitiveness to cold is lost, and the frequency of the pulse is increased. The most striking changes are those which take place in the skin with its appendages and in the subcutaneous tissues. The myxœdematous swelling gradually disappears from all parts of the body, so that the face and hands once more assume their

natural appearance, and the free movement of the limbs which has been considerably hampered by the swelling is regained. The reduction of the swelling is accompanied by a loss of weight, which may amount to as much as two or even four stones. The skin, which as a result of the removal of the swelling, may for a time remain loose and wrinkled, becomes warm and moist owing to a renewal of the secretory activity of the sebaceous and sweat glands. Not infrequently there is some desquamation which may occur in fine scales or in large flakes from the palms of the hands and soles of the feet, as observed by Byrom Bramwell. The hair follicles resume their proper function, so that even where there has been complete baldness a good growth of hair is developed in the course of six or twelve months. Considerable changes are thus produced in the appearance of the patient. In addition to these very obvious signs of improvement the feeling of lassitude passes away, and normal muscular strength and activity are regained. As a result of this those who before treatment could barely walk a mile are enabled to walk long distances, climb mountains, and undertake various other forms of exercise, mental processes become more active, the memory improves, and the hallucinations disappear. In some cases in which actual insanity had occurred it also has been cured. If albuminuria without actual renal disease has been present it disappears while the amount of urine is increased. The observations of Ord and White show that the total amount of nitrogen eliminated is increased, and that this increase is almost entirely due to the increase of urea in the urine. At first the amount of urea excreted may not only equal, but actually exceed, the normal average quantity. The number of red corpuscles in the blood increases. In patients who have not reached the menopause menstruation returns and takes place regularly even when there has been amenorrhœa for several years. In fact, the myxœdema is entirely cured, though the fibrosis of the thyroid gland remains unaffected by the treatment.—*The Lancet*, March 11, 1899.

18.—USE AND ABUSE OF COCAINE.

The advantages of cocaine in small and short surgical operations, where without its use general anæsthesia would become almost imperative, has been exemplified times without number. The injection of a 0·5 per cent. solution into the deeper layers of the skin along a proposed line of incision will make that

incision practically painless, and abdominal sections have been performed under this local anæsthesia alone. By its invaluable aid wonders have been accomplished in ophthalmic surgery. Previous to the introduction of cocaine, when a cataract operation must perforce be performed under a general anæsthesia, the operators were not at all sure but that they would find the vitreous upon the primary dressing, forced out of the wound by the retching and vomiting efforts so frequently happening after the administration of an anæsthetic; or perhaps the violence of these efforts exciting a hemorrhage into the vitreous, in either case interfering absolutely with the success of the operation. In nose and throat practice, cocaine finds its most frequent use, and, we might add, abuse. Not only are the various operations along these passages facilitated by anæsthetising the mucous membranes with solutions of this drug, but other important purposes are also well served. We are able to tell if a turbinate body is congested or whether the chronic congestion has led to true fibroid hypertrophy, by noting whether or not a weak solution is able to materially reduce the size of one of these bodies; if so, congestion is principally to blame, and *vice versa*. Suppose that we are dealing with a patient with congested turbinates and a cocaine solution is applied, contraction in these erectile tissues soon follows, and the rhinologist is then vastly better able to discover other pathologic lesions that may be situated posteriorly, while operative procedures are far more easily performed by thus enlarging the field of vision. Again, when caustic drugs, either in strong solution or in pure form, are to be applied, it is the part of humanity to relieve the patient of all possible suffering in so far as it is not inconsistent with his safety. In acute rhinitis, by contracting the vessels of the nasal mucous membrane, the turbinate bodies are reduced in size, the nasal cavity is freely opened, and the patient much relieved; but with the wearing off of the beneficial effect of the cocaine, which unfortunately takes place very quickly, the vessels become more congested and tortuous than before, and the condition is aggravated. Resort is again made to the spray, and the same farce, or rather tragedy, is again enacted.

Before we had any realisation of the hidden dangers of the drug, slaves to cocaine were detected in all parts of the world where this terrible servant had been introduced. Even in comparison with morphinism but a small proportion of cocaine *habitues* are ever able to throw off the shackles of their tyrant, and the results of the latter drug are even more deleterious and deadly than the former. It is to be deplored that so many of our profession have yielded to its devastating influence, and all the more so that anyone, professionally or otherwise, is so easily able to replenish his supply at the nearest drug store without

prescription. Unfortunately, in the early stages of the habit, the mental faculties, as a rule, are greatly benefited, and more head-work, if it may be so termed, can be performed. As in the morphine and chloral habits, it takes progressively increasing doses of cocaine to satisfy the craving, and cases of taking as high as 60 grains in twenty-four hours have been reported. Later the drug exerts a degenerative action on the nervous system and the will-power is completely lost. Upon the other tissues the condition becomes similar to that which in children we have been pleased to term *marasmus*. As regards the histologic effect upon the various organs, many experiments have been made upon the lower animals, and we have reason to believe that similar changes take place in man. In the brain and cord there is usually a well-developed hyperæmia. On microscopic examination there are found degenerative changes in the large ganglionic cells of the cord and in other large collections of these cells in various parts of the body, particularly the cardiac ganglia. Acute cases of poisoning are by no means uncommon, as every rhinologist will testify. Especially are the symptoms liable to follow the spraying of the nose with the usual strength used, 5 per cent., as a preliminary to examination and treatment. The nasal mucous membrane having a greater absorbing power than that of the mouth and pharynx, toxic symptoms are more apt to follow applications to the former. In mild cases of poisoning, the pupils dilate, the pulse becomes slow, the skin exhibits a marked pallor, the patient is often loud and boisterous in his conversation; in more pronounced cases, the face becomes cyanosed, the pulse rapid and thready, and syncope may supervene. Finally coma, with stertorous respiration and abolition of the reflexes may come on with the most startling rapidity, followed closely by dissolution. The amount of the drug appears to have little influence in the production of mild or grave symptoms, idiosyncrasy here being of the greatest importance. The time elapsing between the application of the solution and the establishment of toxic symptoms also varies within wide limits.

One word as to the substitution of drug habits. Attempts have frequently been made to cure morphinism by the use of cocaine, and *vice versa*, this either on the advice of physicians or the victim attempting to take the cure into his own hands. This is not to be countenanced for a moment, in that the *habitué* becomes a slave to both, and the breaking down of his nervous system occurs even more rapidly than before. Many persons become victims through the pernicious habit of taking snuff. Probably all preparations of this contain cocaine in larger or smaller quantities, and the physician may often be put upon the right track by obtaining the history of such

a habit. Scheppegegrell states that among the Southern negroes not a few of them draw up crystals of some salt of cocaine into the nose. The object of this is not to obtain a free breathing space, but on account of the exhilaration a small quantity produces when taken in this manner. Lastly, we must remember the many blessings that the proper use of cocaine has bestowed upon mankind, at the time not forgetting that we are dealing with a two-edged sword. We should never put the drug into the hands of the patient himself. We should endeavour to find some means of preventing its dispensation by druggists without a prescription by a qualified physician. We should not in our private offices be too prone to apply it indiscriminately to all cases where a little suffering is to be borne. When it does become necessary to resort to its use in private practice we should not allow our patient to know what drug is being used. With these restrictions cocaine has the greatest power to yield good results, and may in time become an unmixed blessing and regain the place in the profession that of late years it seems to have lost.—*From a leading article in the Journal of the American Medical Association, December 24, 1898.*

19.—NOTE ON THE USE AND ABUSE OF CHLORATE OF POTASH IN THE TREATMENT OF DISEASE.

By HENRY ASHBY, M.D., F.R.C.P., Physician, Manchester
Children's Hospital.

[From Dr. Ashby's paper:]

Probably chlorate of potash is prescribed less frequently at the present time than it was twenty years ago, and it is used also in smaller doses than of old. In the *British Pharmacopœia* of 1898 the dose given is 5 to 15 grs., instead of 10 to 20, thus reducing it by one-half. Doubtless a knowledge of the poisonous action of the salt in large doses has suggested this change. The dangers of the salt are not recognised by the public at large, as considerable quantities are consumed in the shape of lozenges, tabloids, "pellets," and so-called "throat cures"; nor by druggists, for I was surprised to learn from a well-known pharmacist a short time ago that he did not think that chlorate of potash was any more poisonous than bicarbonate of soda! In past times 20 to 30 gr. doses were commonly

given every four hours to women suffering from puerperal septicaemia, under the impression that the salt, when taken internally, yielded up its oxygen to the hæmoglobin of the blood. Nowadays the salt is most often prescribed for inflammatory conditions of the mucous membrane of the mouth, as well as for acute tonsillitis, scarlet fever, and diphtheria. As a cure for diphtheria, it is, I fancy, falling into disrepute; its benefit is very doubtful, and certainly, in the later stages of a severe case, it is likely to do harm rather than good. It is largely used also in the treatment of scarlet fever, and here also its curative virtues are not great. I must have prescribed it many hundreds of times in the scarlet fever ward at the Manchester Children's Hospital—I cannot say with any striking results—and in later years I gave it up entirely. In tonsillitis, its value, to say the least of it, is doubtful. Its value in the treatment of "ulcerative stomatitis" has long been recognised; and on account of its striking curative effects in this disease it has secured for itself a certain amount of credit in the treatment of other forms of stomatitis which it hardly deserves. In such cases chlorate of potash given in 3 to 5 gr. doses (child 3 to 7 years) every four or six hours, so that the daily dose is 20 to 30 grs., acts like a charm, and in a day or two a marked improvement is manifest. The ulcer becomes cleaner, the gums less swollen, the fœtor of the breath disappears, there is less tendency to bleed, and in a week or so the child is practically well. The salt gives rise to smarting when taken, especially when not freely diluted, but the smarting soon passes off. The salt appears to be secreted in the saliva very soon after being taken. It acts better given internally than applied locally. How it acts it is difficult to say.

With regard to the other forms of stomatitis common in children—such as thrush, catarrhal and aphthous—it is safe to say that they are not nearly so readily acted on by chlorate of potash. I have often prescribed this salt in out-patient practice on the same day to a child suffering from a typical ulcerative stomatitis and another with a number of shallow, small ulcers situated on the tongue and mucous membrane of the cheek, and noted the effect in both cases in the course of a few days or week. In the former case there could be no doubt whatever as to the effect; while in the latter the improvement was usually far less marked. It is doubtful if any other form of stomatitis is benefited by the exhibition of this salt. It is not perhaps easy to say what is a safe dose of chlorate of potash to give to children, or how long the salt should be taken without any fear of its producing a deleterious effect. It must be borne in mind that some children are more sensitive than others. Children under two years of age are especially sensitive, and

I believe the salt is very apt to produce anæmia and depression in such.

The following case is a very instructive one, and illustrates the dangers that are only too likely to attend domestic medication:—I was asked to see a child of 14 months. She was intensely anæmic, but not jaundiced. Both liver and spleen were much enlarged; the former appeared to bulge outwards and distend the abdominal wall, so that on lifting the bed-clothes the bulging could be seen at a glance. Its lower edge could be felt as low as the umbilicus. The edge of the spleen extended quite as low as this. There were some rhonchi to be heard in the lungs; the heart's action was very feeble; the stools were white in colour; the urine was reported to be of a brownish colour. The case at first sight was exceedingly puzzling. The condition indicated some grave blood disease—but what? The diagnosis was cleared up by finding that, on the advice of some meddling friends, her relatives had, unknown to the medical attendant, given her, on account of "teething," for the past three weeks, "as much chlorate of potash as would lie on a threepenny piece three times a day." This would roughly amount to 5 gr. doses three times a day. How long this amount took to produce serious symptoms cannot be said, except that it was clear that before the end of three weeks she was seriously ill from the effects. I saw her two days later, the chlorate having been stopped in the meantime. Her condition was improved; the liver and spleen were smaller, and she was a better colour. But the following day I learnt that symptoms of cardiac failure had supervened, and she died a few hours after. Unfortunately no post-mortem was possible.

This case is, unfortunately, nothing like as complete as could be wished, but there cannot be the least doubt that it was a case of subacute chlorate of potash poisoning. It certainly suggests a caution in the use of this salt. One of the early symptoms which have been described in chlorate poisoning is drowsiness. There would certainly be an increasing anæmia, with perhaps jaundice. A brown colouration of the urine would, of course, be exceedingly significant. Enlargement of the liver and spleen would probably follow, and very likely a hypostatic congestion of the lungs. Oozing of brownish-coloured blood from the gums would possibly take place. Apart from chlorate of potash producing such serious symptoms, there is reason to believe that it may produce a chronic anæmia, with enlarged spleen; and in all such cases which present themselves it is worth while to try and ascertain if this has been the case.—*Edinburgh Medical Journal, January, 1899.*

20.—THE ERUPTIONS PRODUCED BY CHLORAL.

In addition to the nausea, vomiting and purging produced by chloral in some patients through its irritative action upon the stomach, and in addition to the coryza which it occasionally produces, chloral is capable of causing other effects, aside from any depressant influence which it may exercise upon the circulatory and respiratory systems. Within the last two years we have called attention in these pages to the frequency with which drugs produce lesions in the skin, the cause of which is frequently not recognised, and these lesions are therefore very obstinate under ordinary treatment until by chance the use of the drug which is causing them is stopped. In this connection we may call attention to an interesting paper which has recently been published by Labadie-Lagrave, of Paris. In the first of his cases, a girl, aged 17, without any antecedents of note, was seized with fever, sore throat, and an eruption upon the arms of a diffuse red character, with tiny punctated marks. The diagnosis was that the patient was suffering from scarlet fever, and the condition of the tongue was thought to be characteristic of this disease. The tonsils were covered by a gray, gangrenous-looking exudate. There was no albuminuria in the urine, and the lungs were clear. The diagnosis was that of ordinary scarlet fever with gangrenous tonsillitis. The temperature curve was of ordinary scarlet fever. Two days after the patient was seen the eruption faded and the temperature fell by lysis. Frequent applications of antiseptics were made to the buccal mucous membrane of a lotion of salol and camphor, and to the skin chloralised vaseline was applied. After this treatment had been continued for a considerable period of time, desquamation of the skin having been persistent, although it was limited by the use of the chloralised vaseline, the temperature suddenly rose several degrees, and at the same time a curious rose rash developed upon the upper and anterior portions of the thorax and in the dorsolumbar region. This eruption was accompanied by a disagreeable sensation in the skin, and finally was followed by little papules which were surrounded by a red areola. Labadie-Lagrave believes that this secondary eruption was due to the chloral applications. In a second case in which chloral was applied locally similar symptoms were developed, namely an erythematous rash, characterised afterwards by a papular eruption. It is true that in these instances the eruption occurred from the local application of the chloral rather than by its internal use, but that eruptions do occur when chloral is used either internally or externally is well known. They have been

reported by Schüle, Fuller, Brown, Mayer, Martinette, and Curran, and in America by Dr. Morrow in his well-known book on "Drug Eruptions." Chapon, in a Paris thesis of 1894, described such a condition.

Mason recorded three cases of measley eruption which lasted three or four days, and Burham has noted scarlatiniform eruptions after the use of chloral. In Brown's cases curious red patches appeared over the malar bones, and across the bridge of the nose. Mercier has seen an urticarial rash, and if a large amount of literature were to be searched it would be found that chloral has been shown to produce almost every variety of lesion of the skin which is not dependent upon an infection and a micro-organism. Two theories have been advanced to explain these eruptions. One is that the drug produces an angioneurosis or vasoparalysis, probably by an action on the vasomotor centers. The other theory is that some of the chloral is eliminated by the glands of the skin, and in its elimination produces local irritation. According to Aviragnet these eruptions may be divided into two great classes. In the first they appear in the presence of conditions of the nervous system characterised by exaggerated excitability, as for example, chorea, insanity, tetanus, general paralysis, also in transverse myelitis and after operative shock. In the second class of cases they occur in instances in which there is retention of chloral in the system, as for example, in acute and chronic enteritis, eclampsia, hepatic disease, advanced tuberculosis, and abdominal tumours. Then, too, it is well known that the simultaneous administration of alcohol with chloral often causes dermal manifestations, and hot drinks given with chloral, particularly if they are copious, are apt to produce such effects. Of course, in the cases where chloral is applied externally it produces a direct local irritant influence.—*A leading article in The Therapeutic Gazette, January 16, 1899.*

21.—OYSTER FEVER.

By JOHN WILLIAM MOORE, M.D. I.,

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[From Dr. Moore's paper.]

My object in making this communication is not to establish the casual relation of oyster-eating to typhoid fever. Such a relation may be accepted as already proved to the hilt.

My aim is rather to show that there are grounds for believing that oyster-poisoning presents itself under at least three forms:—First, as an acute gastro-enteric catarrh; secondly, as a specific continued fever, which is not typhoid, but which is probably due to ptomain-poisoning through absorption; and, thirdly, as true typhoid fever, the poisonous oysters in question having acted in the capacity of hosts to Eberth's *Bacillus typhosus*.

1. It commonly happens that, within a few hours after unwholesome oysters are eaten, an individual is suddenly seized with symptoms of very acute gastro-intestinal disturbance. There is intolerable nausea, followed by vomiting, purging, and entire loss of appetite. The tongue becomes thickly coated and there is unquenchable thirst. In fact, the attack resembles cholérine or cholera nostras in its sudden onset and its symptoms. After a few hours of misery the patient recovers rapidly—the poison has been eliminated. It is, perhaps, open to question whether such an attack arises merely from the irritant effects of a poison acting peripherally and locally on the mucous membrane of the stomach and bowels, or whether the poison, having been absorbed, acts centrally on the pneumo-gastric system of nerves, so producing the gastric and intestinal symptoms which characterise the seizure. I incline to the view that the irritation is in the first instance localised in the stomach, rather than in the brain. The gastro-enteric symptoms may be, however, of central origin.

2. In perhaps a majority of the cases of oyster-poisoning, complete elimination is speedily effected by vomiting and purging, in which case the patients recover more or less quickly. Where elimination is not effected, poisonous albumoses are formed from the proteids during the early stage of putrefactive decomposition of the food contained in the patient's stomach and bowels. In a considerable number of instances, after the ingestion of unwholesome oysters, a brisk continued fever supervenes within a very few days of the toxic meal. This fever lasts for a week, ten days, or a fortnight, is ushered in with the usual phenomena of a specific pyrexia, and is accompanied by profound depression of mind and body. Nay, more; it may terminate fatally, either by convulsions and coma, or by cardiac failure, or by peritonitis.

On September 28, 1896, I was called to see, in consultation, Miss M.G., aged 30. She was fast sinking with symptoms of heart-failure supervening on peritonitis. Her history was that one evening early in September her uncle and she had supped on oysters. Both were seized with cramp, vomiting, and diarrhoea during the ensuing night. Her uncle quickly recovered, but she was never well again, pyrexial symptoms developing in the course of a few days. Even from the outset she was extremely prostrate, and suffered from profound depression of spirits.

So far as I could ascertain, the illness was by no means a typical typhoid fever, and the lady's attendant physician was at a loss to give a name to it so anomalous were its symptoms and course.

On the 20th of the same month (September, 1896) I had been called to see a physician living some miles from Dublin, who had been ailing off and on for a fortnight or so previously. His symptoms were—loss of appetite, occasional nausea, and recurring diarrhœa. He had been more acutely ill since the 17th, three days before my visit. I found his liver and spleen enlarged, his pulse varied from 92, at 11.15 a.m., to 96, at 8.15 p.m., but his temperature rose only from 100.2° to 100.5° in the same interval. His tongue was thickly coated and his breath was exceedingly heavy and offensive. His story was that on September 1, he had eaten a dozen of oysters, shortly after which he was attacked with vomiting and purging. This gentleman remained feverish for a week or ten days, and was as prostrate as if he had had influenza. His temperature chart was quite atypical. He was constipated, and the presence of some rose spots with moderate splenic enlargement alone pointed to typhoid as the malady from which he suffered.

3. I will now briefly describe a case in which all three phases of oyster-poisoning, as I have defined them above, presented themselves in succession. On September 29, 1898, Captain E., aged about 36, stationed with his regiment in a cavalry barracks in Dublin, dined at regimental mess, the occasion being a special guest night. One of the courses consisted of uncooked oysters, taken from a barrel which had been brought to Dublin from Essex. Before morning he and many other brother officers and their guests were attacked with acute gastro-enteric disturbance. Most of the victims recovered after two or three days' *malaise*. Not so Captain E. and a few others. Captain E., for example, developed an anomalous continued fever, lasting for a week or ten days. On the eighth day from infection, that is, on October 6, I visited Captain E., with Dr. R. A. C. Burnes. The chief symptoms were—bad taste in the mouth, foul tongue, thirst, and sleeplessness. The bowels were confined, spleen slightly enlarged, no rose spots. Captain E. quickly improved, and in a few days was up and out. But this satisfactory state of things was not to last. After some days of apyrexia, the patient began to ail again, and gradually passed into an attack of fully developed typhoid fever, which lasted nearly four weeks. I saw him, in consultation, on the 6th, 8th, 10th, 13th, and 31st days of this attack, which was certainly one of typhoid fever of ordinary severity, but without complications. In this view, Dr. Burnes and Major Goggin, R.A.M.C., who saw him subsequently, entirely concurred. It was stated to me that two of Captain E.'s brother officers developed true typhoid fever, and that one of them was attended in London by Sir William Broadbent, Bart., F.R.S., during his illness, which was of a severe type. My reading, then, of Captain E.'s case is that the first attack of acute gastro-enteric irritation failed to

eliminate two poisons with which the unsound oysters were charged; that one of these poisons produced an albumose- or ptomain-fever; and that, towards the end of the third week from infection, the more slowly acting poison of typhoid fever produced the characteristic features of that disease.

In discussing food-poisoning due to bacteria, Dr. Sydney Martin, in the article which I have already quoted, arrives at conclusions which tally remarkably with the opinions I have ventured to express. For practical purposes, he says, food-poisoning due to bacteria may be considered under three headings. I take the liberty of transposing the second and third of these:—(1) Before being eaten the food may have undergone putrefactive changes, with the formation of poisonous chemical substances. The symptoms in this case are of rapid onset. (2) Putrefaction may not be present in the food when swallowed, but putrefactive processes in the food may subsequently occur in certain conditions of the small and large intestine, and produce toxic symptoms which bring this class of cases into close relation with the first class. (3) Putrefaction may not have occurred, but the food may contain pathogenetic micro-organisms which, when swallowed, set up symptoms of poisoning. These cases, like the infective diseases, are characterised by a period of incubation; and not infrequently they produce special local lesions elsewhere than in the gastrointestinal tract.—*The Practitioner*, March, 1899.

22.—FOOD POISONING.

An outbreak of meat poisoning due to imperfectly cooked veal pies is reported in detail by Drs. J. B. Wilkinson and Harold Ashton, and has been the subject of considerable investigation and speculation by Dr. Herbert E. Durham (*Public Health*, January, 1899, and *British Medical Journal*, December 17, 1898). All the cases, somewhat over fifty in number, presented very similar symptoms, the chief of which were severe and uncontrollable vomiting and diarrhœa, accompanied at first by shivering, and followed by collapse. In some there were violent abdominal pains, and in several the abdomen was swollen and tender. Many had severe pains in the back. The symptoms began in from five to fourteen hours after eating, and, as a rule, were severe from the start. The motions were first grass-green, then dark green, and highly offensive. The severity of the diarrhœa increased on the second day; one patient was purged forty or more times in a single day. In very few cases the dejecta

contained a little blood. In the worst cases the patients became semi-comatose, restless, and delirious in the course of a few hours. Occasionally there were disturbances of vision, which lasted until the temperature, which ranged from 100° in the mildest to 104.5° in the severest cases, became normal. The pulse was very rapid, weak, and dicrotic. In many cases the patient was markedly cyanotic, and had some difficulty in breathing. Some had cramps, and nearly all had muscular pain and stiffness. In very many cases herpes appeared about the lips on the third to the sixth day, and some had a rash, followed by desquamation. Convalescence in the severe cases was very prolonged; some were still weak, even after three and a half months. Four cases terminated fatally, and in two of these autopsies were secured. The brain surface showed slight congestion; the small intestines showed congested patches, which became larger and more numerous lower down, and did not correspond with Peyer's patches. The whole lower third was highly congested, and contained blood and bloody mucus. The large intestine also was highly congested, and contained some yellow, diarrhœic fluid. Otherwise the organs of the body were found to be in a fairly healthy condition.

Investigations of the cause of the outbreak yielded the following facts:—On Tuesday, July 26, an apparently healthy calf was slaughtered, and two days later the forequarter and breast were delivered to a baker, who made the meat into the pies which were shown to be the cause of the outbreak. Other portions of the animal were sold to others who made pies which caused no trouble. A portion of a knuckle end, which was still in the possession of the butcher when the investigation was begun, was to all appearances perfectly good meat. The baker to whom the trouble was traced made, on the day he received the meat, 160 veal pies and 108 pork pies. The pastry was the same for the entire lot, and both kinds were treated to the same lot of jelly, which was made by boiling the veal bones with two pigs'-feet in four quarts of water. Inasmuch as the pork pies caused no disturbance of any kind, no responsibility could be attached to the pastry or to the jelly. The veal pies were baked in not less than three nor more than five batches, hence the batches would have included about thirty-two, forty, or fifty-three pies. The time occupied in baking each batch was said to be about twenty minutes. The number of persons affected was somewhat over fifty; and as in some cases single pies were shared by two, three, and four persons, it is obvious that less than fifty pies produced all the trouble. Since no other parts of the animal produced any sickness, there can be no doubt that the contamination of the meat occurred after the sale and delivery. According to the findings

of Dr. Durham, based on a study of the blood of a number of the patients as to the behaviour of the serum when tested for clumping properties with various micro-organisms, with controls of serum from normal persons, the outbreak was due to the bacillus enteritidis. This limitation of the inquiry was necessitated by the fact that it was impossible to secure either one of the pies or part of one, or any of the first vomitings. The conclusion arrived at, strengthened by the fact that all four fatal cases were from pies which were two or more days old when eaten, which period allowed enormous multiplication, makes most probable the further conclusion that one whole batch was so insufficiently cooked as to preclude the killing of the organisms, which, according to Basenau, cannot survive exposure for one minute to a temperature of 70° C.

Another outbreak, which is likewise to be attributed to insufficient cooking of infected material, is recorded by Dr. F. W. Andrewes (*The Lancet*, January 7, 1899). In this the offending food was rice pudding, which caused eighty-six cases of diarrhoea in a single night in St. Bartholomew's Hospital, the infecting agent being *Bacillus enteritidis sporogenes*. Three different outbreaks of diarrhoea have occurred within recent years in this institution; the first and second involved fifty-nine and one hundred and forty-six patients, respectively; the third (the one under consideration), eighty-six. In all three epidemics the great majority of attacks have been mild—merely abdominal pain followed by a few loose movements. In a few of the more severe cases the discharges have contained mucus and blood. On each of the three occasions there were instances of abdominal pain alone, and a general tendency to looseness of the bowels. In the first two outbreaks no special article of food could be incriminated, but the third was shown by many facts and coincidences to be due undoubtedly and incontestably to rice pudding, and to nothing else. In the first outbreak Klein found in the patients' stools a peculiar spore-bearing anaërobic bacillus, which he named *Bacillus enteritidis sporogenes*, which most nearly resembles *Bacillus butyricus*. It is intensely virulent when inoculated subcutaneously in guinea-pigs, and recent milk-cultures are the most virulent. It is a common saprophyte, and is probably consumed habitually in milk, in which it is very commonly detected, with no deleterious results; yet under certain unknown circumstances it becomes highly pathogenic. It was found in the stools of all those affected in the second outbreak and in the milk supplied on the day previous. In the third outbreak stools were taken from three patients at random, and were found to contain the organism. Cultures made in milk heated to 80° C. proved to be highly virulent. Guinea-pigs inoculated in the groin at the end of

forty-eight hours with 1 c.c. of whey died in less than two days—one in twenty-one hours. All showed intense hemorrhagic œdema and gangrene spreading over the abdomen and thorax, and in all the organism was found in the blood and in the spleen. It was not possible to obtain any of the milk, as it had been used up or thrown away; but a part of a pudding was found and examined. It was sour in smell and acid to litmus; it yielded bacilli, which, while not so intensely virulent as those found in the stools, were, nevertheless, undoubtedly the same organism. Tests in the kitchen showed that the temperature reached in the preliminary preparation of the materials of the pudding ranged from 70° to 85° C., and in the final baking from 90° to 98° C., which is insufficient for killing the spores of the organism, which are among the most resistant known and can withstand a temperature of 100° C. for a considerable time. —*Abstract in the American Journal of Medical Science, April, 1899.*

DISEASES OF THE NERVOUS SYSTEM.

23.—HYDROTHERAPEUTIC TREATMENT OF NEURASTHENIA.

By JOSEPH COLLINS, M.D., and
CARLIN PHILLIPS, M.D.

[The following is taken from an elaborate paper by Drs. Collins and Phillips on the etiology and treatment of neurasthenia:]

The value of hydropathic procedures in the treatment of neurasthenia can easily be over-estimated. It is, nevertheless, perhaps the most important member of the physical measures upon which experience has taught us to rely. It owes its beneficial effect to the powerful appeal that it makes alike to the body and to the mind. It is a very important measure in aiding constructive metamorphosis by stimulating the peripheral and deep circulatory fluids; it is an important agency to excite and sedate the peripheral nerves and their central and peripheral distribution; its utilisation is almost invariably accompanied by at least a temporary feeling of well-being, attendant upon reaction, which, by making an impression upon the patient's mind, helps to restore the loss of confidence and to overcome the mental depression which play such a conspicuous part in the disease. In these ways and in others it overcomes the myasthenia, it promotes the

appetite for food and facilitates digestion, it contributes to repose and to slumber, and it tends to overcome the numerous paræsthesiæ which constitute such a conspicuous feature of the patient's complaint. The method of utilising water advantageously in the treatment of neurasthenia varies with the individual, and particularly with his capacity to react. It therefore varies with the same individual in different stages of the disease. There is no such thing as a stereotyped hydriatic prescription, because the instructions that may be beneficial to one patient will very likely be injurious to the next. When the conveniences of a hydriatic institution are to be had, the physician should avail himself of them, because the mode of applying water can be there more carefully and accurately done, while the seemingly complex apparatus makes a leading appeal to the patient's mind, a result at all times to be striven for in the treatment of neurasthenia. The possession of such hydriatic apparatus is one of the most important claims for the advantages of sanatoria treatment of neurasthenia. Much benefit, however, may be obtained from the application of water with no other apparatus save the attendant's hand, a pitcher, and a sheet. The customary hydriatic procedures in the treatment of neurasthenia are cold ablutions, the dripping sheet, the spray, and the simple douche. Of these the latter is by far the most important. In order that the douche may be used successfully, it is necessary that a certain amount of pressure which can be readily graduated is available. For the average neurasthenic individual of the depressed type, the customary procedure is to prepare him for the application of the douche by a few treatments with cold ablutions (80° to 65° F.), the water being applied from the attendant's hands, accompanied by brisk friction, while the patient stands in warm water, with a cold compress about the head. If the patient reacts well after being dried and made to take lively exercise in the open-air, or after having been put to bed, the cold-douche treatment may be begun. When the patient is sent to an institution, some such procedure as the following is employed:—The cutaneous circulation is stimulated by encasing the patient's body up to the chin either in a hot box or in dry hot sheets for a few minutes, never up to the point of considerable perspiration, except in the irritable varieties of neurasthenia, and in those accompanying the uric acid diathesis; then the douche is employed with from ten to fifteen pounds pressure, and with water from 85° to 55° F., for from thirty to sixty seconds, and applied all over the body. The treatment is then terminated by the application of a spray (called the Fleury spray, after its French originator), with water of about the same or a little higher temperature, and

with equal or somewhat greater pressure. The patient is then quickly dried, and reaction facilitated in the customary way. It depends entirely upon the degree and completeness of reaction what the formulary for the next treatment will be. If reaction is satisfactory, the temperature of the water is diminished on each succeeding day and the pressure somewhat increased, but never above eighteen or twenty pounds. The Scottish douche is rarely used, unless it be for the purpose of counteracting neuralgic pains and painful paræsthesia. When the hydriatic treatment must be carried out at home, cold ablutions and the dripping sheet are most serviceable. The application of the former is very simple, and may be done in one of two ways. A linen sheet is wrung out of water from 75° to 65° F., and thrown about the patient, who is standing upon a warm, dry surface or in warm water; then the attendant makes friction for from thirty to ninety seconds through the sheet, which is then removed and substituted by a dry sheet, through which the frictions are kept up until the patient begins to react thoroughly. The reaction is then kept up by utilisation of the customary measures. The dripping sheet is oftentimes more serviceable than the one just described. The linen sheet is thoroughly saturated in water of the same temperature, but is not wrung out. It is applied in a similar manner after the patient has been given a brief ablu-tion with water of the same or somewhat higher temperature, and removed after from thirty to sixty seconds, during which time friction is kept up through the sheet.

The other applications of water, such as the prolonged luke-warm or warm bath, the half-bath, the sitz-bath, the local and general cold pack, may be utilised to meet special indications. In the forms of neurasthenia characterised by erethism, mental excitement, physical unrest, continual expression of dissatisfaction, the general cold pack repeated once or twice daily, and kept on from two to four hours, is a very important and beneficial measure.—*Medical Record*, March 25, 1899.

24.—DEATHS FROM FUNCTIONAL NERVOUS DISEASE.

By ROBERT MAGUIRE, M.D., F.R.C.P.

Dr. Maguire read a paper on this subject before the Medical Society of London. The author maintained that these deaths were due to exhaustion of grey nerve matter. He eliminated deaths from asthenia, tuberculosis, disturbances of the respiratory centre, heart failure, or vaso-motor paralysis, as

occurring in the course of acute mania, status epilepticus, anorexia nervosa, and other hysterical conditions; concussion, fright, and shock, and explained that the cases he had to describe were deaths actually from functional nervous disease. He showed that in such cases all the bodily functions failed equally, with the exception of the functions of those of the higher nervous system. In death from senile decay, the condition in which there was the most equal deterioration of the somatic powers, there was nevertheless usually a predominance of failure of one particular system, generally that of the heart, since that organ had no chance of rest. But in such cases as Dr. Maguire referred to the only system at fault was the highest nervous system, and therefore he considered that the death was due to exhaustion of the grey nervous matter which controlled all the other functions. He described four cases which had come under his own observation bearing upon this point. The first was that of a woman who, without other physical symptoms, developed blindness after a fall. The case was diagnosed as traumatic hysteria, but suddenly the patient became unconscious, had unequal pupils, and perspired on one side of the head and neck. It was then thought that she must have cerebellar tumour, but, death occurring, nothing was found at the necropsy. The patient had shown hysterical symptoms before the fall. The second case was that of a young woman brought to St. Mary's Hospital in an unconscious state, in which she lay for four days before death, presenting no signs of disease except unconsciousness. There was no trace of poisoning, and nothing was found post-mortem. She had been greatly troubled before the attack. The third case was that of a medical student who had lived too sparingly, had had difficulty in completing his curriculum, but shortly after passing his examinations he became unconscious, presenting no other physical signs of disease. It was thought that he might be suffering from encephalitis, but in three months he gradually recovered. He began practice, married, was overworked, and in three years' time was taken ill again with similar symptoms and died. Nothing whatever was found at the necropsy. In the fourth case Dr. Maguire had diagnosed the condition during life, and the diagnosis was confirmed post-mortem. A clergyman of taciturn habits, living the life of a literary recluse, and having undergone severe mental trials, became unconscious, and showed no other symptoms. He died and nothing was found at the necropsy. In all the four cases uræmia, syphilis, alcoholism, and poisoning were carefully excluded. Dr. Maguire called attention to the case of a schoolboy, reported at one of the other societies some years ago,

who became unconscious while running at "hare and hounds," and he thought that his death was best explained by exhaustion of grey matter. Dr. Maguire believed that this point of pathology of death, which seemed to have been overlooked, was of somewhat wide importance. By it he explained the sense of impending death which, of no importance in the young and those suffering from very acute diseases, was of a serious omen in the old and those who had more prolonged illnesses. These had no recuperative power. Similarly patients of an eastern nation would die if they made up their minds to die, while those of western nations, even though neurotic, had more reserve vitality, and their morbid fears were of less moment. Dr. Maguire said that hints on the physiology of the subject might be obtained from a paper by Dr. Augustus Waller on the "Sense of Effort," published in *Brain*.

In the discussion, Dr. A. E. Sansom said that although nothing was found by the morbid anatomist, there might have been some change not yet recognised. He thought that the symptoms rather pointed to failure of nutrition of that part of the nervous system connected with the vagus nerve.

Dr. Seymour Tuke said that in some respects the symptoms exhibited by Dr. Maguire's cases, especially the first, bore some resemblance to those seen in cases of general paralysis. Following their epileptiform seizures patients often lay in a semi-unconscious condition for days, and emaciation often followed progressively, although a large quantity of food was taken. He asked if there were any rise of temperature in Dr. Maguire's cases?

Dr. Maguire, in reply, said that the prolonged unconsciousness made it clear that the trouble was not confined to the vagus. He held that there was exhaustion of Hughlings Jackson's "highest centres." He quite agreed that there were points of resemblance to general paralysis since that was due to failure of the same highest centres.—*The Lancet*, April 1, 1899.

25.—ACUTE MANIA FOLLOWING SIMPLE OVARIOTOMY.

By J. HALLIDAY CROOM, M.D., F.R.C.P. Ed.,
F.R.C.S. Ed., F.R.S.E.,

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There is no novelty in recording a case of insanity following any form of abdominal operation. All sorts of psychoses have been observed following such operations, including melancholia,

mania, dementia, and hystero-epilepsy; and I should not venture to record this case were it not that it has two elements which render it specially interesting.

Case 1.—Mrs. G., married, but sterile, was sent to me, from Ayrshire, with a simple ovarian tumour. The prognosis of the case was excellent. The patient was in very good health, was 44 years of age, and had never been in bed from any illness; she had never tasted alcohol, and had an excellent family history. She was sent to a nursing home, and the operation was performed with ease. There were no adhesions or complications of any kind, the tumour being a simple ovarian cystoma. In the course of the forenoon the patient recovered from the shock of the operation, and by evening she expressed herself as feeling quite well. The pulse and temperature were normal. The following day she continued well. On the third night she became restless and slightly incoherent in her speech, with a slight rise of temperature (100° F.). One naturally thought of some septic condition, but there was no distension of the abdomen, and the wound was sweet. A dose of calomel, followed by a saline purgative, was administered, with the usual result. Next morning she became much more violent, expressed numerous delusions, and could scarcely be kept in bed. From time to time she seemed to become rational, but rapidly became acutely maniacal again. She was absolutely sleepless, and therefore various narcotics were administered—bromidia, paraldehyde, hyoscin, &c., but without any satisfactory result. Her pulse and temperature began to rise markedly; she refused all forms of nourishment, asserting that they were all poisoned, and it was practically impossible to feed her per rectum. That night, the fifth after the operation, her pulse began to fail, and on the following day she died from sheer exhaustion. There was no history of direct hereditary tendency to insanity, but there seemed to be some traces of mental weakness in collateral branches of the family.

My diagnosis was, acute mania following the operation; and in order to confirm this a post mortem examination was made, when everything in the abdomen was found perfectly natural, and with no indication of septic infection. The points of special interest in the case which I have just recorded are, first, its very early development after the operation, occurring, as it did, on the third day. Howard Kelly reports one case occurring shortly after operation, but the exact time is not given. Most of the recorded cases occurred later, and many of them during the period of convalescence. Of the other three cases I have met with, two occurred in the second week and one in the fourth week after the operation, and all recovered.

The second point of interest in the case is the rapid and fatal issue. I can find no records of any such case, most of those recorded either recovering or remaining permanently insane. Further, most of the recorded cases have been in women who either had well-marked hereditary tendency to insanity or who had themselves at some previous time been insane. Spencer Wells records two cases of insanity during convalescence after ovariectomy, but both were in patients of lunatic families. Savage, of Birmingham, out of 483 cases of double oöphorectomy,

had four cases—three recovered, and one committed suicide six months after the operation. Keith had six cases of insanity in 64 cases of hysterectomy. Three of these were acute, three became chronic. Howard Kelly, out of 2,000 abdominal sections, had eight cases of insanity. Five recovered completely, two remained insane, and one committed suicide after her return home. In 1,000 cases of abdominal sections performed by myself, I have met with mental disturbance four times—three times after ovariectomy and once after hysterectomy. All of these patients recovered completely, except the one whose case I have just recorded.

It seems to be beyond a doubt that this accident after an abdominal operation occurs very exceptionally in women of sound mental health themselves, or with a clean hereditary record. Nearly all the cases recorded have occurred in women who themselves have shown some mental instability, or whose family history shows insanity in some form. The question, however, as to its occurrence after ovariectomy is somewhat different. Here an entirely new element is introduced when the ovaries become the subject of operative interference; and the records of many operators show that removal of the ovaries and of the uterus is productive of various forms of insanity in a much larger proportion of cases than are ordinary operations not involving these structures. This is not difficult to understand. In every phase of ovarian activity, from the period of puberty onwards, a state of mental instability is produced, more or less extreme, according to the constitution and general predisposition of the patient. Disease or even small malformations of these organs produce mental phenomena which may amount to insanity, and occasionally these mental conditions are relieved by removal of the affected organ; and in this connection I should like to record the following case:—

Case 2.—E. C. was sent me, on the recommendation of Dr. Clouston, suffering from acute mania at each menstrual period, while between the epochs she was quite quiet and sane. She was so violent when in my ward that she had to be isolated in the padded room of Ward 6 in the Infirmary. After careful consideration of her case with Dr. Clouston, I removed her ovaries during an inter-menstrual period. One of them proved to be somewhat enlarged and cystic. She had no return of her insanity during the years she remained in Edinburgh, and menstruation ceased entirely. Later she went to Los Angeles, in California, and from there she sent me a post-card regularly for two years, during which she remained quite well. During the last five years I have not heard of her.

I only interpolate this case to show the profound influence the ovaries have upon the nervous condition of the patient. This case, however, is just the converse of the previous one, and the opposite of one's usual experience, which is, that removal of the ovaries rather upsets the mental balance than otherwise.

Personally, this is the only occasion on which I have removed the ovaries with the object of curing a mental condition, and in this short communication I do not, of course, refer to women who are operated on for any condition during continuous insanity. Many such cases are recorded in asylum reports. The prognosis as to life in the insanity occurring after operation is always good. Besides my own I have no record of an immediately fatal case. With regard to the mental recovery, it simply is a question whether the patient has a good personal and family history or not. If not good, the patient is apt to remain permanently insane, and *vice versa*.—*Edinburgh Medical Journal*, April, 1899.

26.—SOME UNCERTAINTIES IN THE DIAGNOSIS OF CEREBRAL TUMOUR.

By ERNEST SEPTIMUS REYNOLDS, M.D. Lond., F.R.C.P.,
Senior Physician to the Ancoats Hospital, Manchester, &c.

[The following is taken from Dr. Reynolds' paper :]

Diseases which may simulate Brain Tumour.—(1) Chlorosis. Very rarely optic neuritis, generally of rapid onset, is present in this disease; and if it is associated with intense headache and perhaps with hysterical motor or sensory symptoms, a mistake in diagnosis may easily occur. (2) Uremia with intense headache, optic neuritis, convulsions, and coma may simulate brain tumour, especially if the convulsions are unilateral in character. The unilateral form of uræmic convulsion, without cerebral hemorrhage, is spoken of by Sir William Broadbent in his book on the pulse, and I remember seeing a case of the kind at the Manchester Royal Infirmary (under the care of Dr. Graham Steele) some years ago. The character of the optic neuritis, together with the history and symptoms of Bright's disease, should, of course, make the diagnosis clear. (3) Chronic lead poisoning, if associated with lead encephalopathy, with convulsions, delirium, sometimes acute mania, and coma with optic neuritis and severe headache, may suggest the presence of brain tumour. This idea may be strengthened if hemianæsthesia is present, and particularly if there is any paralysis of the cranial nerves. Buzzard (quoted by Gowers) has described paralysis of the third cranial nerve in lead poisoning; and I have at present under my care a man suffering from chronic plumbism with gout and paralysis of both sixth cranial nerves; a few weeks ago the right nerve was totally paralysed, the left slightly so. This has now almost recovered, so that he has no apparent strabismus, but there is double vision when strain

is put on to either of the external recti. (4) Hysteria may, of course, simulate brain tumour, particularly when there is headache, vomiting, convergent strabismus, and various motor and sensory disturbances. (5) So-called reflex epilepsy, in which the convulsions are unilateral, is sometimes difficult to distinguish from symptoms due to coarse irritation of the cortex of the opposite side. These convulsions may be caused by irritation of the dura mater due to old injury, by subdural hæmatoma, or by irritation (in dogs) of the inner surface of the exposed dura mater (Franck, quoted by Mills). In many of these cases the convulsions are on the same side of the body as the irritation, and are considered to be due not to irritation of the cortex but to irritation of the fifth cranial nerve supplying the dura mater and especially distributed to its inner surface. Similarly reflex epilepsy, unilateral in character, may be set up by pressure on old scars in the region of the fifth cranial nerve, or by any peripheral irritation of the fifth nerve, as from lesions of the ear, eye, nose, teeth, face, or scalp. Injuries of nerves or an isolated fibroma on a nerve in other parts of the body have been known to set up these unilateral reflex epilepsies. (6) Many anomalous cases have been reported from time to time in which there were symptoms apparently due to coarse irritation of the brain cortex, but in which the patients have either recovered without operation or after an operation in which nothing was found. Thus Pearce Gould reported a case in which there was headache, aphasia, twitchings, facial palsy, and paralysis of the right side of the tongue, with slow pulse. A tumour was supposed to be present in the frontal lobe and the skull was trephined. Nothing was found; the patient gradually improved, and, with the exception of an occasional epileptic fit, the symptoms all disappeared. Phillips mentions a case of old injury to the head with severe headache, vomiting, slow pulse, and a tender spot on the head, and slight local twitchings just before the operation. Nothing was found on trephining, but the patient recovered perfectly.

[Dr. Reynolds then gives details of two anomalous cases which came under his own notice.]

What the exact diagnosis is in these two remarkable cases I am at a loss to say. The second case suffers probably from occasional attacks of genuine epilepsy, both *grand mal* and *petit mal*, but the facial convulsions without loss of consciousness are a puzzle to me. Undoubtedly, both cases from the persistent localised epileptiform seizures suggested some gross cortical irritation very strongly, but the nature of this irritation seems a mystery. (7) Syphilis of the cranial nerves, with severe headache, but with no signs of cortical irritation, may simulate the early signs of a brain tumour, and the diagnosis

may only be cleared up by time and antisyphilitic remedies. If a syphilitic meningitis with local convulsions and optic neuritis be present, then it may be even more difficult to exclude the possibility of tumour. (8) Meningitis of brain abscess may be mistaken for tumour, especially if slight optic neuritis is present, if the symptoms have had a slow onset, and if there is no apparent cause for the meningitis or abscess. (9) Polioencephalitis may give rise to symptoms which simulate those of pontine tumour.

Symptoms due to Brain Tumour mistaken for other Diseases.—

(1) Hysteria is not infrequently assigned as a cause of the symptoms of tumour, especially when the latter occurs in young girls, and there is no optic neuritis or paralysis of cranial nerves. It should be remembered that in neurotic subjects true hysterical symptoms may be present with or precede symptoms of organic disease such as tumour or disseminated sclerosis, and so give rise to error. (2) Reflex epilepsy may be assigned as the cause of the unilateral convulsions of brain tumour, especially if there is an injury or tumour on a nerve. I saw a case of this kind some years ago in the Manchester Royal Infirmary, where a patient with an old injury to and a scar over the left ulnar nerve suffered from left-sided unilateral epilepsy commencing in the left arm; there were no other symptoms for some time, and the case was diagnosed as reflex epilepsy. Some time after the patient died, and a gumma in the right motor cortex was found. (3) Hydrophobia has been diagnosed in cases in which there was a history of a comparatively recent dog bite, but in which the symptoms were really due to brain tumour. This occurred in a case related to me by Dr. Bevan Lewis (who made a post mortem examination) in which a small parasitic cyst was found in the neighbourhood of the medulla. (4) Cases of senile dementia are frequently admitted into workhouse hospitals. They take no notice of their surroundings, have to be fed, are incontinent, will not answer questions, have no friends to give a history of their illness, and lie curled up in bed. In two such cases, presenting no other symptoms, which occurred at the Manchester Workhouse Infirmary, brain tumours in the frontal lobes were found at the post mortem examination, and had been quite unsuspected during life. (5) Circulatory changes, if the symptoms of brain tumour come on suddenly, especially in old persons, may be assigned as the cause of the symptoms. In a case sent to me by Dr. Eatough, of Mossley, near Manchester, a man, aged 56, but looking older, and with no previous symptoms, suddenly became unconscious while sitting in his chair. This condition lasted for about 15 minutes, and his left side, especially the arm, was found to have lost power.

This gradually increased. A few days afterwards he had an attack of "trembling" in the left arm and leg, without loss of consciousness, and there was some loss of sensation in the same limbs; the optic discs were normal, and there was no headache or vomiting. Subsequently, however, other attacks of left-sided convulsions with loss of consciousness occurred; there was rapid loss of power on the left side, with optic neuritis, and there was no longer any doubt that a tumour at or near the right motor cortex was present. Death ensued within three months after the commencement of the illness. No post mortem examination could be obtained. (6) If ear disease be present, or there is a history of injury, the symptoms of tumour may be ascribed to abscess, especially if there is no optic neuritis; similarly, meningitis may be given as the cause of the symptoms of tumour, particularly if these develop rapidly.—*The British Medical Journal*, February 11, 1899.

27.—A NEW SYMPTOM OF SOME CEREBELLAR TUMOURS.

In his monograph on "Tumours of the Brain," in Nothnagel's *Special Pathology and Therapy*, vol. ix., Oppenheim makes the statement that the duty of the clinician is not ended when he has diagnosed an intra-cranial neoplasm, but he must go further and determine its precise situation in order to furnish a basis for prognosis and treatment. In pursuance of this thought Schmidt (*Wiener klinische Wochenschrift*, December 22, 1898, p. 1170) reports two cases of cerebellar tumour presenting symptoms of increased intra-cranial pressure, especially vomiting and vertigo, when the lateral decubitus was assumed:—

The one case occurred in a woman, 24 years old, in the eighth month of her third pregnancy, whose parents had been tuberculous and who had herself been rachitic and had suffered from measles and articular rheumatism. For several months there had been headache, especially occipital, sometimes radiating to the forehead. For a month there had been vomiting, both after the ingestion of food and independently, but especially on assuming the right lateral decubitus. The vomiting was preceded by some headache and followed by exhaustion. For three weeks the patient had been in bed and took no interest in her surroundings. Memory had failed. On account of the vomiting and headache, premature labour was induced, with transitory amelioration of the symptoms named. The pupils were full, but reacted tardily. The urine contained albumin. The optic nerves were inflamed and the seat of hemorrhages at the papillæ and the maculæ. There was infrequent closure of the lids, divergence of the visual axes, rigid fixation of the eyes, lateral nystagmus and injection of the conjunctiva of the left eyeball. Tapping of the head, especially in the right parietal region, as well as rotation of the head, induced pain. The skin of the chest was hyperæsthetic. Taches cerebrales were marked, and slight opisthotonos

existed. Respiration was irregular and abnormally slow. Marked general hyperæsthesia developed. There was at first increased irritability of the facial muscles on the right side, which was followed later by paresis. In the further progress of the case there developed bilateral abducens paresis, loss of knee-jerks, biceps-jerks, and triceps-jerks, slight ataxia and weakness in the left upper extremity, alternate incontinence and retention of urine, left-sided labial herpes, dyspnoea, cyanosis, and finally pulmonary oedema, leading to death six months after the appearance of the first symptoms. During much of the time the patient lay upon her left side, with the thighs flexed. At no time were febrile symptoms present. Upon post mortem examination a tumour of the left cerebellar hemisphere was found that proved on histologic examination to be an angiosarcoma.

The second case occurred in an unmarried seamstress, 25 years old, with a history of rachitis and of some injury of the vertebral column leading to scoliosis, who, fourteen months before coming under observation, while in the fourth month of pregnancy, was seized with vomiting of progressive intensity, which did not diminish after delivery. The vomiting recurred in attacks about twice weekly, being preceded by tinnitus aurium, and if the former did not set in at once the patient was compelled to arise from bed, though under these conditions a drawing sensation was felt in the abdomen and was soon followed by vomiting. The patient related that she had formerly had diplopia. For three months there had occurred daily attacks lasting from five to fifteen minutes, in which the woman was seized with some pain in the parietal region, followed by pain in the nape of the neck and contraction of the muscles in this situation. Sometimes, though not always, the attacks were attended with vomiting. Headache was present daily with slight intermissions. Walking was difficult, being attended with vertigo. For a short time there was improvement, but the symptoms returned, together with diplopia. Roaring in the ears was almost constant. The patient occupied the right lateral decubitus, maintaining that the left lateral position was attended with vomiting, vertigo, and tinnitus aurium. Tapping of the head occasioned no pain, although pressure on the mastoid process on either side did. When the eyes were rotated far outward distinct nystagmus appeared; when the eyes were rotated upward it was only suggested. The right eye appeared somewhat turbid. Choked disc was present on either side and the corneal reflex was diminished. On innervation of the orbicularis oris the right nasolabial fold appeared the more pronounced. A subjective sense of heat in the face and mouth existed. Flexion and extension of the neck, as well as rotation, were painful. The upper portion of the dorsal segment of the vertebral column was tender on pressure. The abdominal reflex was enfeebled, the knee-jerks pronounced. The pupils were at times full, at other times narrow; sometimes they reacted to light, sometimes not; sometimes the right, sometimes the left, was the larger. The attacks recurred from time to time, although for a short period there was temporary absence of the symptoms. In some attacks the pulse was slowed, in some the respiratory frequency, and sometimes sweating occurred. Paræsthesia was present on the left side of the face and tongue, and was followed later by anæsthesia. The left corneal reflex became enfeebled. Death resulted finally from respiratory failure nearly two years after the appearance of the earliest symptoms. Post-mortem examination disclosed the presence of a cystically degenerated glioma in the right cerebellar hemisphere, obstructing the aqueduct of Sylvius and giving rise to internal hydrocephalus.

A careful analysis of the symptoms presented by the two cases here briefly described in outline would seem to demonstrate that the occurrence of symptoms of increased intra-cranial pressure, especially vomiting and vertigo, on the assumption of the lateral decubitus is indicative of the existence of a tumour of the opposite cerebellar hemisphere of considerable size and close to the median line. These phenomena are probably attributable to obstruction of the aqueduct of Sylvius and pressure on the great veins of Galen from change in the position of the growth.—*A leading article in the Journal of the American Medical Association, January 28, 1899.*

28.—CEREBRO-SPINAL MENINGITIS.

By Dr. LEWIS A. CONNER, of New York.

Before the New York Neurological Society, the author read a paper based on sixty cases that had been observed in the Hudson Street and New York hospitals. Every effort had been made to exclude those in which the meningitis was secondary to other processes. Of the sixty, twenty-one occurred in 1893, the year in which the disease was specially prevalent in various parts of the country. Ten occurred in each of the last two years. One half of all the cases occurred in the spring months—March, April, and May. The youngest patient was a child of two months, and the oldest a woman of sixty-five years. In only one was there a distinct history of exposure to cold immediately preceding the attack. No two of the patients came from the same family, although two negroes occupying the same room were attacked within a few hours of each other, and both died in a short time. Post-mortem examinations were made in eighteen of the forty-one fatal cases. In the very acute cases there was marked congestion of the meningeal vessels. The exudate was often so slight as to be scarcely perceptible, except in cases that had lasted two weeks or more. The lateral ventricles were often distended with purulent fluid. The greatest involvement of the spinal cord was in the dorsal and lumbar portions, and always on the posterior surface. Microscopical examination showed constant involvement of the subjacent brain tissue. The common involvement of the cranial nerves was also noted. Councilman and his associates, said Dr. Conner, were convinced that the specific cause of epidemic cerebro-spinal meningitis was the *Diplococcus intracellularis*. In the thirty-five cases examined by them the organism was

found in all but four, almost exclusively in the pus cells. It was an aerobic bacterium, which grew best on blood-serum agar. It had been previously considered that the *Diplococcus lanceolatus*, or the pneumococcus, was the organism responsible for this disease. Bacteriological examination was made in ten of the cases reported in the paper. In three autopsies in which the culture results were negative only ordinary culture media were used. The *Diplococcus intracellularis* was found in only four of the cases, and the pneumococcus in about the same proportion. All the usual types described were represented in this series. All the fulminant cases were marked by early delirium and coma. Twenty-six ran their course in two weeks, and all ended fatally. There were two of the intermittent type. Thirteen lasted more than a month, and in these cases eleven patients recovered. The longest course was three months and a half. The onset was sudden in thirty-nine cases. The temperature was decidedly irregular, but there were several distinct types. In a number the temperature was normal or subnormal throughout the disease, or up to a short time before death. In a second type the temperature was moderate most of the time. In others the temperature rose gradually and then fell, whether or not recovery took place. These cases resembled typhoid fever somewhat, but not infrequently the highest temperature was in the morning. In the fulminant cases the temperature was sometimes nearly normal for the first few hours. The pulse also varied greatly, independently of the variations in temperature. Retardation of the pulse was not common, and was pronounced in only two cases. Where the symptoms were active an almost constant symptom was a marked increase in the respiration rate. Vomiting was present at some time in over half; in twenty-five it appeared at the onset, and in fifteen only at that time. In fifteen it remained a prominent feature throughout the disease. In no case was the vomiting "projectile." There was more or less pain in all cases, and it was usually in the form of an intense occipital headache, but there was not infrequently pain in the back, limbs, and chest, sometimes especially marked on one side. The reflexes presented no constant feature. More or less rigidity of the muscles of the head, neck, and back was present in almost every case. Rigidity of all the extremities was also common. There was no uniformity about the appearance of the pupils. In one case which ended in recovery there was consciousness throughout. In a large proportion delirium and stupor alternated. Some of them were marked by an unusual form of delirium simulating hysteria. Skin manifestations were observed in twenty-five per cent., but the hemorrhagic eruption was seen in only three of the cases. A distinct

leucocytosis was present in most of the cases in which the blood was examined. The spleen was enlarged in twenty-three per cent. In none of the cases of recovery was there disturbance of vision subsequently. In two there was bi-lateral deafness, but one of the patients recovered completely. In several there were involvements of the joints resembling those seen in rheumatism. In seven pneumonia occurred, and in all of them it developed after the meningitis. Albuminuria was generally an accompaniment of the disease.—*New York Medical Journal*, January 21, 1899.

29.—CASE OF SLIGHT CONCUSSION OF THE BRAIN, FOLLOWED BY TUBERCULAR MENINGITIS, APHASIA, DEATH.

By W. H. JALLAND, F.R.C.S.,
Surgeon to the York County Hospital.

[The relation of injury to tuberculous meningitis has attracted some attention of recent times. The short interval between the injury and the symptoms of the meningitis suggests a doubt as to the real causal connection between them.—E.F.T.]

This case presents some points of interest from a medical-legal aspect. The boy was apparently quite well previous to the accident, which evidently induced the condition from which he died. It seems somewhat analogous to a case of injury to a joint in which tubercular trouble has supervened. The scattered tubercles were over the left lower Rolandic area, which accounts for the aphasic condition noticed.

Thomas V., aged 2½ years, was admitted under my care into the York County Hospital, August 15, 1898. Mother alive and healthy. Father dead. Query as to the cause. Had convulsions in infancy, and was always considered a delicate child. Present illness caused by a fall from some steps on Monk Bar. Apparently he had concussion of the brain at the time, as he was more or less unconscious and sick. This occurred on August 14. He had a fit the next morning (August 15), and was brought to the hospital that day. Soon after admission he had right-sided convulsions, not very marked, the face and eyes turned to the right side, and vomited once. Screamed a good deal during the night. Temperature that evening was 101°. On the 16th his temperature was normal. Had right-sided convulsions for fifteen minutes, and was fretful and irritable. On the evening of the 16th his temperature went up to 103°, but was normal the next morning, and continued so until the 29th, when he was allowed to be up. On September 1 his temperature at night went up to 102°, and his speech, which had been normal previously, became quite unintelligible. From this date his temperature ranged from 101·4° in the evening to 99° in the morning, until September 13, without any other particular symptoms, and without anything really to account for it. There was not

much alteration to be noticed in the child, except that he was losing flesh and condition. September 18: For the last week there has been occasional sickness every day from half-an-hour to an hour after food. The vomit was almost of the character of regurgitation, and with no particular effort or discomfort. The child has lost flesh markedly, and has been very difficult to feed. September 19: He had two convulsions of a transitory character. Tâche cérébrale well marked. On the 20th he had two more fits. Dr. Anderson examined the fundus oculi and found optic neuritis, well marked on the right disc, and slightly so on the left. September 21: Several fits, and is now quite comatosed. September 22: His temperature has kept up pretty steadily from 100° to 101° for some days. To-day it reached 102·8° in the morning, and 104° at night. On the 23rd, temperature at 104°, and died during the day. Post-mortem.—The brain: Well-marked and almost purulent meningitis. Scattered tubercles over the left lower Rolandic area, and over the top of the Rolandic fissure on the left side. No increase of fluid in the lateral ventricles. Heart normal. Lungs: There was a patch of adherent pleurisy on the left side, which was almost like a tiny localised empyema. There was some recent pleurisy on the right side, between the upper and lower lobes. The bronchial glands were enlarged, evidently tubercular, and one or two caseating and breaking down. The lungs were normal. Abdomen: All the organs healthy, except a large gut, which was extremely thin and transparent. All the mesenteric glands were enlarged, and were caseating.

—*Quarterly Medical Journal, April, 1899.*

30.—ACUTE GONORRHOÆAL MENINGITIS.

By JOE S. WOOTEN, B.Sc., M.D., Texas.

In Taylor's "Venereal Diseases" we find brief references made to gonorrhœal affections of the spinal cord (cap. xxvi). Citations are here made to two cases reported by Hamen and Parmentier, in which "spinal symptoms supervened upon gonorrhœal rheumatism"; by Tixier and Stanley, respectively, of paraplegia resulting from similar infection; to a case reported by Panas of a "man in the declining stage of gonorrhœa who, after exposure to cold, had a severe headache lasting for ten days, and the loss of the sight of one eye" — from optic neuritis; and finally, to the study made of the various published cases by Dufour, which shows the most common clinical picture to be one of dorsomyelitis, with the course of the disease similar to all infectious myelites, and termination in death in one-third of all cases. In the light of such facts, these authorities are of one opinion, that gonorrhœa may cause myelitis and meningo-myelitis like other infectious diseases. But aside from these few references, medical literature—so far as my researches extend—is silent upon the subject, and Taylor concludes his chapter with this statement, that "we have no knowledge of the involvement of the cerebral meninges by the gonorrhœal process." In the

report of the case to follow, no autopsy was allowed, but the clinical picture was so striking that error in diagnosis would seem impossible.

A man, aged 36 years, weight 175, in perfect health up to the day of his recent illness. Temperate in all his habits, with family and individual history negative as to tuberculosis, syphilis, nephritis, or trauma. Five days after exposure to gonorrhœal infection, he experienced a burning and itching in the urethra, the meatus became red and swollen, a discharge appeared, and the case developed into a typical, acute, anterior gonorrhœal urethritis. Social conditions deterred him from consulting a physician. Local injections were resorted to, and in a few days an acute gonocystitis was the result. It was not until now that he sought the advice of a physician. When first seen, the tongue was heavily coated; the bowels constipated; there was considerable fever. He reported having had two chills the evening and night before with rigors, coming on several hours apart. He now complained of excruciating pain: backache, headache, pain over region of bladder, perineum and down the thighs; there was a profuse, purulent urethral discharge, and the two-glass test gave in addition blood in both. The patient was ordered to bed, and all local treatment prohibited. Hydragogue-cathartics, hot sitz baths, and mild alkaline diuretics were prescribed. The following day, another chill having appeared, quinine was administered in 5-grain doses every three and one-half hours, three doses a day for three days. On or after the sixth day, the fever subsided, the bladder and urethral symptoms improved, though the discharge was still profuse, and the patient was beginning to sit up. Directions were given to remain quiet, to keep the bowels open, to continue the hot sitz-baths, the alkaline diuretic, and to drink freely of water, and that so soon as the acute symptoms subsided, irrigations and local treatment would be commenced.

Three days elapsed before the patient was again seen, and on being called, I found that the patient had been seized during the night with a rigor and chill; the temperature was then 103, the skin bathed in perspiration, the pulse full, quick and bounding. The condition of patient's mind had alarmed his wife; he was very hilarious, excited, and talked at random, though when spoken to was fairly rational and gave satisfactory answers to most questions, but could give no explanation for his happy frame of mind. He complained of headache, vertigo and intense nausea—vomiting even water; the bowels were acting freely from the laxatives given, but owing to sick stomach no other medicines had been given during the past thirty-six hours. The urine was scanty, high-coloured, mucopurulent and still discoloured by blood, and micturition was

extremely painful. In spite of all sedatives, the restlessness increased. No opiates were given, owing to the already existing inactivity of the kidneys. This restlessness and hilarity increased to a condition of acute mania, the patient grew violent, and restraint became necessary. This extreme condition lasted for about three days, when the patient gradually became less obstreperous, and violent only when disturbed or aroused. During this period of marked excitement the temperature ranged from 99·5 to 101; the pulse was full, tense, and the rate ranged from 78 to 84. The face was congested, the pupils tended towards dilatation rather than contraction, and reacted but slowly to light; the reflexes were exaggerated, there was marked tremor, the skin was hyperæsthetic, there was beginning trismus and commencing rigidity of the neck muscles, and the patient evidently suffered great pain. The mental disturbance, however, was, up to this time, the most significant and marked peculiarity; though apparently wide awake, it required at times considerable effort to arouse patient to his sensibilities, and when touched or loudly spoken to, he would jump as though frightened. Near the end of this period of excitement, gonorrhœal arthritis developed in left elbow and right knee-joint; the trismus became marked, the head drawn back, the eyes rolled in and up, and marked deafness supervened; there were hiccoughs and muttering delirium, and the patient gradually passed from this condition of sopor, which lasted about ten days, into coma and death. Early in the disease the urine and fæces were voided in bed. So soon as cerebral excitement was observed, on my second visit to the patient, urethral and bladder irrigations with a quart of hot Thiersch's solution were practiced once a day and kept up until quite near the end. Under these washings, the secretion of urine became more free, and the urine itself much less purulent. Owing to the violence and strength of the patient and the aversion—from the very beginning—to all medicines, water, or food, the administration of all nourishment necessitated the use of chloroform and the naso-œsophageal tube. In this manner he was fed twice a day, and at one of the feedings, advantage was taken of the anæsthetised condition to give local bladder and urethral treatment. At no time did the fever run over 103, and during the greater part of the disease, morning remissions were 99, with evening exacerbations of 100; there were no sweats. During the last twelve hours the pulse became more rapid and soft, the temperature rose and remained at about 102 until death. Rational treatment had little or no effect upon the course of the disease. The duration of the meningitis was about twenty-one days.—*Journal of the American Medical Association, January 28, 1899.*

31.—TYPHOID MENINGITIS.

By Drs. W. W. KERR and H. MOFFITT.

[The authors read a paper on this subject before the California Academy of Medicine:]

The patient, a waiter, aged 28 years, entered the City and County Hospital on September 29, 1898. He was in a very stupid condition at that time, and his statements were somewhat contradictory. The history elicited, as well as possible under the circumstances, is as follows:—The father died of some lung trouble; patient had always been well, except slight pertussis; he indulged moderately in tobacco and alcoholics. His present illness dated back about three or four weeks. At that time he was taken sick rather suddenly, with general weakness, fever, anorexia, headache, and pain in the right iliac region; no cough or nose-bleed; did not remember whether there had been diarrhoea or vomiting. He entered the hospital on account of the pain in the right iliac region, general weakness and headache. On examination he was found to be very pale, much emaciated, and had a dull, heavy look. Somewhat demented, he answered slowly and articulated poorly; there was no real aphasia. The pupils were equal and reacted normally; the eye muscles were normal; the tongue when protruded was deflected slightly to the right and was tremulous; there was no facial paralysis; the ears were not tender, and there was no discharge from them; no herpes; lungs were negative save for a few dry and moist râles. The only thing about the heart was a slight systolic murmur; otherwise negative. The abdomen was distended, tympanitic, and with marked gurgling in the caecal region; there were no spots and no tenderness. The spleen seemed by percussion to be a little large. There were four or five typic pea-soup stools daily. Shortly after entrance the urine gave diazo reaction. A little albumin was present in the urine. The knee-jerks were present and equal. The pulse was markedly dicrotic. The Widal reaction was not obtained on entrance. The disease progressed in a rather unusual manner. The dulness and difficult articulation increased but there was no delirium. No pain seemed to be experienced, and there was no tenderness of the head or neck on pressure. The fever ran a most erratic course, resembling tubercular meningitis more closely than typhoid fever. The pulse was comparatively slow, ranging from 70 to 90; dicrotic. No spots appeared; the spleen remained unchanged, as did also the knee-jerks; no eye symptoms made their appearance, and there was no hyperæsthesia. Diarrhoea was persistent, and stools of the pea-soup variety. The patient emaciated very rapidly. The abdomen

was not much distended, but there was persistent gurgling. The Widal reaction, 1 to 40, was obtained one week before death, which occurred on October 23. Autopsy showed a few healed ulcers in the lower ileum, with the shaven-beard appearance. They were certainly six to eight weeks old. The spleen was very slightly enlarged and very soft; the other organs were negative. The brain was everywhere covered with a thick, purulent exudate, yellow-red in colour. Microscopically examined, diplococci and rod-shaped round-end bacilli were found. Cultures were made, which showed mobile bacilli giving negative glucose test and clumping with typhoid serum. It was thought for a time that the case was one of tubercular meningitis. The lungs were repeatedly examined, with but negative result. The sputum was carefully examined, but no germs were found. One point of interest in this case is that the meningitis was not secondary to any middle ear trouble, as is generally the case with typhoid meningitis. Here the meningitis was a direct infection of the typhoid bacillus, and of a most unusual nature.

Dr. Moffitt had been able to find but eighteen or nineteen cases of typhoid meningitis recorded. Osler and others mention the complication and cite some cases. Of those reported, 16 presented the typhoid bacillus on microscopic examination, and in 12 of these it was a pure typhoid infection. Wolf has gathered the data of 174 cases of typhoid meningitis, and finds that 2.87 per cent. were caused by typhoid infection alone. Thus far all the cases recognised have been fatal. Seven of the 16 cases began in the third or fourth week. The exudate may be either serous, sero-purulent, or purulent. It is usually very thick and viscid. In this case the diplococcus was also found.

In the discussion, Dr. Harold Brunn said that he had seen two cases of meningitis in typhoid fever. In one of them the symptoms were most pronounced, but on autopsy no brain lesion was observable. In the other case there was some trifling doubt as to the exact diagnosis, though most of the symptoms of typhoid meningitis were present. The occurrence of this complication in typhoid fever was, fortunately, most rare, as the termination seemed always to be a fatal one.—*The Journal of the American Medical Association*, March 18, 1899.

32.—STATISTICAL STUDY OF TABES.

[The following is taken from the reports of the meeting of the New York Neurological Society:]

Dr. H. M. Thomas, of Baltimore, read a paper which was founded on 111 cases of tabes at the Johns Hopkins Hospital,

presenting more or less complete histories. Of this number, 106 were whites and five were negroes. The negroes represented a little more than 10 per cent. of the cases treated, so that the percentage of tabetics among the negroes was less than half what it should be if the negroes were represented in proper proportion. Syphilis is considered by the majority of physicians to be the cause of tabes. The records show that while the negroes represented only 6.39 per cent. of the total number of males treated in a given time, they constituted 27.63 per cent. of the whole number of males treated for syphilis. In the dispensary the percentage of women suffering from tabes was small—a little more than 9 per cent. There were five female tabetics seen in the private wards, and from the higher strata of society, which was contrary to the usual belief. He had as yet seen no case of tabes in a negro woman. His statistics presented nothing of much interest regarding the age at which the disease develops. Most of the cases came on between thirty and fifty years, the youngest being twenty-five and the oldest sixty-six years. The duration of the disease could be determined with fair accuracy in 107 cases. In 11 it lasted ten years or more; in one the duration was thirty years. He had definite notes in 95 of the 97 male cases. The percentage of cases in which syphilitic infection was certain was 42; the percentage of possible syphilitic cases was 63. The author's conclusions regarding the relation of syphilis to tabes are: (1) in a large proportion of cases of tabes a history of syphilis can be obtained; (2) in a certain not inconsiderable number there is no history of venereal sore or other syphilitic manifestation; (3) in negroes tabes is relatively uncommon, whereas syphilis is very much more common in them than in whites; (4) the partial immunity of women is greater than can be satisfactorily accounted for by the relative infrequency of syphilis among them. This study seemed to show that syphilis is not the only factor in the development of tabes. The time elapsing between the syphilitic infection and the first symptom of tabes was determined in 47 cases. The shortest interval was two years, and the longer ones, twenty-six, twenty-seven, thirty, and a doubtful forty-two years. Pain occurred in 57 as the initial symptom; ataxia in 24; numbness of the extremities in 6; paralysis of the bladder in 5; nausea and vomiting and gastric crises in 4. One patient complained that at first he had suffered pain extending from the penis to the rectum, and since this paper had been written he had seen another such case. Optic atrophy occurred in 11; eye-muscle paralysis in 33; Argyll-Robertson pupil in 70; both pupils immovable to light but reacting to accommodation, in 57 cases. Of the

cases showing optic atrophy, the ataxia was marked in two, slight in eight, absent in one. In two of the cases the Romberg symptom was marked in spite of blindness. In 75 cases in which the sexual power was noted, both power and desire were lost in 38, and in three of these was preceded by a marked increase; it was weakened in 24; in one the power was lost but the desire was retained; in one both were increased; in 10 both were normal. The muscular sense was disturbed in 38 out of 44 cases. Charcot's joints occurred typically in five, and there was suspicious enlargement in three others. In seven cases showing mental symptoms general paresis was suggested.

Dr. Starr said that such a statistical study was always useful, although sometimes misleading unless the cases could be followed for a considerable time, and a very large number studied. The statistics of one clinic should, therefore, be studied in conjunction with those from other clinics. He had had the cases at the Vanderbilt Clinic tabulated up to March 15, 1897. To these 175 cases he had added 98 from private practice, making a total of 273 cases. The males were practically ten times more numerous than the females. The great preponderance of cases developed between the ages of thirty and forty, though 21 were over fifty, and two were under twenty. Syphilis was certainly present in 50 per cent., and if these were grouped with those in which syphilis was probable or doubtful, the total would represent 72 per cent. Of the 273 cases, 27 had gastric crises; 21 had optic atrophy; five had Charcot's joints; five had ulcer of the foot. The most frequent symptom was the pain; next, the ataxia; thirdly, the bladder disturbance; fourthly, numbness of the legs; fifthly, girdle sensation; and sixthly, ocular paralyses. The knee-jerks were absent in 246 cases; the Argyll-Robertson pupil was present in 184; the Romberg symptom was present in 229. Rectal crises, or severe pains in the perineum, were noted in one case. One symptom not mentioned in the paper was a sudden giving way of the legs, and falling of the patient before the development of ataxia.

Dr. C. L. Dana said that some time ago he had tabulated the statistics of his clinic, and a portion of those from his private practice. There were altogether about 200 cases, and the percentages obtained corresponded fairly closely with those given in the present paper. He had just looked over the histories of 50 cases seen in private practice alone during the last two or three years, because of the greater certainty in these regarding symptomatology and etiology. In these 50 there was only one woman, and he could only recall having seen two women suffering from tabes. Both of these had been from the lower walks of life. There were very few cases under

thirty years of age, and very few began after the age of fifty. The percentage of possible, probable and certain syphilis did not exceed seventy. It was interesting to note that among the merchant seamen of this country he had found very little tabes, and in the reports of the United States Marine-Hospital Service, although there is an enormous proportion of syphilis, there is comparatively little tabes. He had found pain the most common among the initial symptoms, and after that crises and anæsthesias. In his experience, rectal crises had not been at all uncommon among the early symptoms. He had met with patients who had had obstinate rectal neuralgias, and who had been operated upon for hæmorrhoids, &c., when tabes was really the underlying cause. One of the most extraordinary manifestations of tabes was the prolongation of the painful period. Sometimes a case would be marked by nothing but pain for ten or fifteen years. One interesting early symptom in many cases was simply the sense of fatigue—probably an early manifestation of the involvement of the muscular sense. He regretted that the reader of the paper had not considered the relation of the symptoms to the prognosis—a very difficult problem.

Dr. Joseph Collins said that he had recently analysed the symptoms of tabes occurring in 100 consecutive cases. Out of this number there had been four negroes, although he did not ordinarily see many negroes in his practice. Very recently he had found a well-marked case of locomotor ataxia in a negro woman of forty-seven years, who denied syphilis. Two of his negro patients had been males, and two females. Out of the 100 cases, seven were women, and five of these had been under thirty years of age. Three of these women were actresses, all of them apparently syphilitic. He had made his analysis without any preconceived notions regarding them. There was a definite history of syphilis in 63 cases, and an indefinite one in 17, bringing the possible relationship of sexual infectious disorder to tabes up to 80 per cent. In his experience, the bladder symptoms and numbness of the lower extremities had been the more common initial symptoms. Next to these came pain, and next in order the giving way of the legs. This latter symptom had been very commonly met with. Of the 100 cases of tabes seen in the last three years, rectal crises had not been observed in a single one. He was becoming more and more convinced that orthodox and thorough anti-syphilitic treatment had not the slightest effect, either in delaying the appearance of tabes or mitigating its severity, and this seemed to him a most potent argument against tabes being a parasyphilitic disease.—*Boston Medical and Surgical Journal*, February 9, 1899.

DISEASES OF THE ORGANS OF CIRCULATION.

33.—SO-CALLED FUNCTIONAL HEART MURMURS.

By MAUDE E. ABBOTT, B.A., M.D.

(From the Medical Clinic of the Royal Victoria Hospital,
Montreal.)

[Dr. Abbott bases the following remarks on 466 undoubted cases with undoubted functional murmurs; 269 were afebrile cases, and 185 of these were anæmic; 163 were febrile cases, and 85 showed anæmia; 44 were cases of phthisis, and 35 were anæmic:]

As regards the site of the murmur, it occurs at the apex in 170 cases, in 98 of which there is anæmia, in 72 none. It is at the pulmonary area in 126 cases, in 96 there is anæmia, in 30 no anæmia. In 112 cases it is heard both at apex and base, sometimes with equal force, sometimes as a double murmur; in 79 of these there is anæmia, in 33 none. In 48 cases the site is irregular (at the aortic or ensiform cartilages, &c.), 26 of these occur in anæmic and 22 in non-anæmic subjects. In character the murmur is described as "soft, low, blowing," often "faint," sometimes "short" and "long," about twenty times; in three cases it is described as "musical," twice at the apex, and once at the pulmonary area. It is described 42 times as "rough" or "harsh," and in all but 15 cases this applies to a murmur situated at the pulmonary cartilage. Intensity is a point of some importance, for the murmur is in general low as opposed to the usually louder and harsher organic murmurs, but no hard and fast rule applies to anything about a functional murmur. "Loud" is applied to some 16 cases. As regards transmission, murmurs heard at the apex are transmitted "towards the axilla" in 43 cases, and "into the axilla" in 73 cases. In seven cases the murmur is described as heard "in the back" and "at the angle of the scapula." These cases are, four of chlorosis, one of lymphatic leukaemia, one of incipient exophthalmic goitre, and one of tuberculous meningitis. In none of these, except perhaps the latter, is there reason to suspect organic cardiac disease. Pulmonary accentuation occurred in 191 cases, in 127 of which the pulmonary system was diseased. In about one-third of the cases, it was noted as "slight," more often it was present in anæmic subjects.

The rhythm of the functional murmur, with more special reference to the diastolic sound. Among the cases studied I have found 10 diastolic murmurs which I have not been able

to reject as organic by any of the criteria I have used. They occur in the following diseases :—Chlorosis, splenic leukæmia, functional and cardiac disturbance, exophthalmic goitre, catarrhal jaundice, cerebral thrombosis, chronic bronchitis, and dementia. Some cardiac enlargement was noted in 66 cases, and seemed generally to be consequent on a relative mitral insufficiency. In ten cases, relative dulness began at the right sternal border, in thirty cases it was noted at the mid-sternum.

General remarks.—A functional murmur is usually, though not always, systolic in rhythm ; while frequently at the base, it is very commonly situated at the apex ; in the more severe degrees of anæmia or intoxication it is more common at the apex, in milder disturbances at the base. In intensity it is generally “low” and “faint” ; in quality, “soft” and “blowing,” especially when at the apex. Rough, harsh, functional murmurs are generally situated at the pulmonary cartilage. The murmur is often transmitted from the apex to the axilla, and, as due to a relative mitral insufficiency, may even be heard in the back. Moderate pulmonary accentuation is frequent. In those cases where the murmur is basal and appears to be accidental, it is generally associated with anæmia. Moderate enlargement of the cardiac area is fairly common, and points to a relative mitral insufficiency. The cases studied illustrate especially the following points :—(1) In cases of anæmia, pulmonary accentuation is often associated with a pure accidental murmur. (2) Functional murmurs frequently occur where there is neither anæmia nor fever. They are then often associated with some other condition suggesting intoxication. (3) Diastolic murmurs have been noted which do not appear to have an organic origin. (4) Although accidental murmurs are generally heard at the base and those of relative mitral insufficiency at the apex, accidental murmurs are probably sometimes heard at the apex—(as in moderate anæmias where the murmur may occur at the apex unaccompanied by pulmonary accentuation or cardiac enlargement and disappear after a short time ; or in high fevers where a murmur at the apex is replaced after a few days by one at the pulmonary cartilage of the same character). On the other hand, murmurs produced at the mitral valve are occasionally, though rarely, heard best at the pulmonary cartilage. Two conditions which it may be quite impossible to distinguish from each other by physical signs are :—A functional murmur at the apex with signs of moderate dilatation (relative mitral insufficiency), and an organic mitral murmur with signs of compensatory change. A decision can often only be reached by considering the patient's general condition and the persistency of the murmur. This last in the clinching point

and is the final criterion to which uncertain cases must be brought. In plain terms, we must wait to diagnose the murmur until it is no longer there to diagnose.—*Montreal Medical Journal, January, 1899.*

34.—ON THE PREVENTION OF VALVULAR DISEASE OF THE HEART.

By RICHARD CATON, M.D., F.R.C.P., Honorary Physician,
Royal Infirmary, Liverpool, &c.

[The following is taken from Dr. Caton's paper :]

No physician who has had a lengthy experience of hospital or private practice can fail to be impressed with the frequency and the seriousness of the cases of organic heart disease which come under his notice. As we all know, in the vast majority of cases of organic cardiac disease, acute rheumatism was the starting-point of this sad disablement. The mere cure of the rheumatism is in itself secondary to the great question: "Will the heart escape damage?" In my opinion, then, the physician will make this question his first care, and will note the heart's condition daily, until the patient is quite well, in order to prevent mischief, if he can. If mischief occurs, he will do all he can to arrest it; if he cannot at once arrest it, he will give it every chance of subsiding during later convalescence. At the present time most members of our profession regard such effort as this as a hopeless task. This, I confess, was my belief and my practice during the first dozen years of my professional career, but eighteen subsequent years of observation, directed especially to this question, have securely founded the conviction that much may be done to prevent and to arrest rheumatic endocarditis. So clearly has the good to be done become evident to my eyes, that I should now feel it a distinctly immoral action on my own part to omit certain precautions and certain method of treatment.

1.—*As regards Methods of Prevention.*—Rheumatism, when once existing, seems to me to be aggravated by exposure to cold, and by checking (through chills) the profuse perspiration incident to the ailment; this is probably the opinion of most physicians. I keep in my wards a stock of warm flannel garments expressly for the use of these cases. Every patient is clothed from head to foot in warm flannel (with sufficient changes of the same) during the whole of the acute period. He is kept in the most absolute rest in bed. He is usually treated with gentle cholagogues and with one of the ordinary salicylate preparations; the diet is a light and simple one, excluding for

a considerable time all red meat. The heart is examined daily. If the pain fails to yield in any joint it is quickly dispelled by the use of one or two small blisters applied locally and followed by poultices. Anyone who has tried Dr. Herbert Davies' method of treating rheumatism by small blisters to the joints knows how effective that treatment is. Usually without this adjuvant, however, the pain and fever speedily subside, but, to prevent relapse and endocardial trouble, I always maintain the remaining treatment, with the exception perhaps of slacking off the salicylate. The prolonged rest, warmth, and quiet seem to me very important as means for preventing mischief, for cardiac trouble not unfrequently tends to come on late—even after all pyrexia is over. Under this treatment, 82 or 83 per cent. of my cases get well without any cardiac trouble at all. The remaining 17 or 18 per cent. who are attacked form, I venture to think, a low average.

2.—*Efforts to arrest Cardiac Valvular Mischief when it has begun.*—If endocarditis shows itself by the development of an apex *bruit*, and by accentuation of the second sound at the pulmonary valve, or more rarely by a *bruit* at the aorta, I adopt the following measures:—To all appearance the salicylates have little or no beneficial effect on cardiac rheumatism. I therefore adopt the measure which is found effective for a refractory joint, namely, the application of small blisters, along with other means. As soon as a *bruit* is perceptible—in fact, as soon even as what the French call *assourdissement*, the muffling of the first sound at the apex occurs, which is the usual precursor of the *bruit*—we apply in the course of the third, fourth, fifth, or sixth intercostal nerve small blisters, not much larger than a shilling, in succession, one at a time. They give little pain or inconvenience. The patient is kept in bed, absolutely recumbent and as quiet as possible, for several weeks. It is important, in my judgment, to keep the heart's action as quiet as we can. Moreover, we give, in addition to the salicylates, 8 or 10 gr. dose of sodium or potassium iodide thrice daily. This is given in the hope that it may help to absorb inflammatory products.

Results.—In about five-sevenths of my cases the *bruit* sooner or later gets soft, then becomes variable, being sometimes heard and sometimes not. A stage often exists during which the *bruit* is heard when the patient is recumbent, while it is absent when he sits up for a moment. At length it vanishes and the patient goes out of the hospital with a sound heart. In about two-sevenths of my cases the *bruit* is persistent. Before I adopted this method the recoveries were less than two-sevenths, and the cases of persistent valvular disease more than five-sevenths—a very different result. Probably the prolonged quiet and rest are important. The work of the heart and

apparently the blood pressure are reduced to their normal minimum—surely this must be a help to the reparative process. Possibly this is the essential part of the method ; but whether it is so or not it is at present impossible to say. One distinctly unfavourable fact I must mention. When, after an endocarditis, the apex *bruit* has disappeared, along with its accompanying accentuation of the second pulmonary sound, the whole almost certainly comes back again if the patient has a relapse or a second attack of rheumatism within a few months. In several cases a repetition of the treatment has a second time effected its removal ; in others, again, the morbid condition has unhappily come back to stay. I need scarcely say that in *bruits* of long standing, in fact, in all that are not quite recent, this method is absolutely useless. My great difficulty in pursuing this inquiry has been to get a sufficient number of cases from which to make an adequate and thoroughly sound generalisation. Happily, as I have said, most of my acute rheumatisms do not develop any heart mischief at all, and the number that do is consequently not great. I am naturally anxious that others should try this method. Some of my friends have done so with success. The method I advocate needs much patience, and I admit that sometimes a little persuasion is required to induce a convalescent, whose pain and fever are gone, to lie quiet in his bed long enough to give his heart a chance of recovery, for this may be four or five weeks. At the worst, the treatment, if it fails, does no harm, and certainly, in my view, it is worth while to do almost anything to save the sick man from the miseries of a permanently crippled heart.—*Edinburgh Medical Journal*, April, 1899.

35.—ON VENESECTIONS.

By Dr. H. W. SYERS.

I have read with much interest Dr. Freyberger's abstract of the paper on venesection by Dr. Baginsky. It is with great pleasure that I see Dr. Freyberger bringing forward this question, a question of great importance in treatment. I have long been of opinion that in venesection, whether employed in the case of children or of adults, we possess a most valuable resource in the treatment of those cases of venous engorgement which appear all but hopeless. I mean especially cases of loss of compensation in heart disease in which the dilatation has reached its limit, and cases of pneumonia. A few years ago I saw a case which impressed me strongly with the great advantages attending the timely employment of venesection. The patient was a girl about 14 years old, who was in the utmost peril from over-action

and paralysis of the right heart, due to double pneumonia. It was about the sixth day of the disease. The symptoms were most urgent. She was upright in bed, gasping for breath, deeply cyanosed. The pulse at the wrist was imperceptible, the external jugular veins were distended, and death was apparently imminent. She was bled to a few ounces, four or five, with the most excellent results. Almost at once the pulse became perceptible, and the colour brightened, and the dyspnoea became less urgent. In the course of twenty-four hours, during which she steadily improved, the crisis occurred, and she was safe. She made a complete recovery. I have seen other cases of the same kind, both in children and in adults, and am perfectly convinced that in withholding venesection in cases of this description we are acting wrongly. It is really extraordinary that there should be the dislike which certainly exists to resorting to blood-letting. Because a mode of treatment has been abused in the remote past, it is no reason why it should not be legitimately employed. No doubt the popular prejudice against blood-letting has much to do with the neglect of the practice on the part of the profession. It is difficult to see what possible harm could under any circumstances result from its employment in cases of the kind referred to by Dr. Baginsky. The venous system is choked and engorged, and mechanical reasons justify the removal of the superfluous fluid, the presence of which paralyses the right heart. In renal disease attended with convulsions, again, I have seen nothing but good result from the abstraction of a moderate quantity of blood, and this both in children and grown-up people. The only drawback attending venesection is the frequent difficulty in getting the blood to flow, and this especially in those cases in which its employment is most desirable. It seems that in these cases the stagnation is so great and the blood so inspissated that it is unable to get free. In such cases Dr. Baginsky would open the radial artery, and although this is undoubtedly a more serious proceeding than venesection, yet I regard it as perfectly legitimate and justifiable, inasmuch as it gives the patient the probability of considerable relief, and may enable him to tide over what otherwise must inevitably be a fatal crisis. But with regard to the withdrawal of blood during convalescence, I look upon it as totally unjustifiable. At a time when every drop of blood is of importance to the patient, it is clearly not legitimate to abstract the fluid for any reason whatever. But there can be no doubt that venesection at the present day is far too much neglected, and I feel sure that by its judicious employment, whether in uræmic convulsions, in pneumonia, or in dilated heart, life may be certainly prolonged, and in not a few cases saved.—*Treatment, November 14, 1898.*

36.—THE TREATMENT OF CHRONIC FORMS OF HEART DISEASE DUE TO RHEUMATISM.

By A. E. SANSOM, M.D., F.R.C.P.,
Physician to the London Hospital.

Dr. Sansom (*Lancet*, December 10, 1898) tells us that often in a patient who presents himself to us after convalescence from an attack of rheumatism it is found there is something wrong with the heart—either morbid enlargement without other signs, or murmurs indicative of incompetence of the mitral or aortic valves. It should be realised as the first practical point that even though weeks and months may have elapsed since the obvious symptoms of rheumatism, it is most probable that the rheumatic disease in and about the heart is not absolutely quiescent. Slowly and without betrayal by symptoms the changes go on in the endocardium and the fibrous structures of the valve and its neighbourhood. If things go well a mere thickening results, the valve curtains remaining competent; if adversely, there is contraction of the firm and thick tissue, degenerative changes supervene, and the valve becomes incompetent. But this may not be all; there may be waves of retrogression alternating with improvement, successive storms of disease with enlargements and shrinkings of the heart.

The first practical point urged by Dr. Sansom in regard to treatment is that we should realise that the problem is not the simply statical one of restoring a lack of power in the heart muscle, but a dynamical one of overcoming the influences of various factors and varying phases of disease. Take, first, the medicinal treatment. There are signs of some cardiac failure, and the question arises, shall we prescribe digitalis in some form? Many of us have had most favourable experiences of the usefulness of the drug. Suppose that the patient who has come to us has given evidence of the difficulty of breathing, of effort, of some pretibial pitting, or more marked signs of cedema of the lower extremities have appeared, and possibly of basic cedema of the lungs. Digitalis is given in the form of tincture, infusion, or powder, and after a few days, perhaps even though complete rest has not been enforced, there is vast improvement—the output from the kidneys has been increased, the diuresis has cleared away the dropsy, and after some days of further treatment the adverse symptoms vanish.

But the experience of a second case may be very different. Administration of the drug fairly in increasing doses during five or six days is followed by no sign of amendment. Perhaps

there is evidence of intolerance in vomiting, of diarrhœa, of signs of faintness, of irregularity of the rhythm of the heart; or that without any such signs the drug disagrees—it is simply inert. The pulse is not rendered slow, the tone of the artery does not improve, diuresis does not result, and the dropsy persists or increases. How are we to interpret the facts? Sansom thinks they may be briefly elucidated thus:—If there be no rheumatic febrile disturbance, and if the heart tissues are not undergoing active inflammatory changes, digitalis properly administered acts well. If there be waves of active inflammatory action, circumstances not always to be readily discovered, digitalis fails, and is even harmful. If two, or perhaps three, days have passed without improvement the drug should be omitted, and the patient advised to take perfect rest in bed. Of course, the withholding of the digitalis should be earlier if signs of intolerance arise. Now comes the question of counter-irritations or topical applications of the præcordia. Small blisters may be applied after the manner recommended by Dr. Caton, of Liverpool—one of the size of a half-crown near the heart's apex, and when the consequent irritation is subsiding a second blister of similar size close to it, and others following; or these small blisters may be placed over the intercostal spaces. In France the thermocautery (*pointes de feu*) is most frequently employed. Though these methods may tend to relieve subjective symptoms, Dr. Sansom has not been convinced that they have any decided therapeutic effect. He thinks that there has been much more decided evidence of amendment from the topical application of the ice-bag as recommended in pericarditis by Dr. D. B. Lees. An ice-bag suspended from a cradle should rest lightly over the heart region, a thin layer of flannel intervening. The ice-bag may be applied for periods of half-an-hour and removed for like periods. Usually the patient is made comfortable by these means, and the heart tumult is allayed. A temporary dilatation of the heart may under such treatment subside in two or three days. A small hypodermic injection of morphine acetate or morphine hydrochlorate, from one-tenth to one-fourth grain, is a great aid to the calming and comforting of the patient. From these considerations the second practical point he insists upon is that any sign of rheumatic storm in the heart—a state of things occurring in an apparently chronic phase and obscurely indicated by symptoms—should be treated by placing the patient at rest in bed.

Dr. Sansom thinks it his duty to utter a warning note against the indiscriminate use by the non-medical public of methods of muscular exercise. In many cases of organic heart disease in their truly chronic stages these methods of increasing the

physiological activity of the heart muscle are of very high value, but there is much danger in the case of the rheumatic heart, even though the disease may seem to be chronic. If there be the rheumatically swollen heart—a condition of which the patient himself may be unconscious—the use of muscular exercise should be prohibited. To advise these would be equivalent to a direction to a patient with inflamed joints to run. After a period of such absolute rest exercise should be commenced gradually, for too long inactivity is of course harmful, but the question of the duration of the period of complete repose should be left to the medical adviser. Can medicines aid the absorption of the effusions in and about the heart in the seemingly chronic stages of rheumatism? Sansom thinks it is generally agreed now that salicin and the salicylates have no directly favourable influence. Indirectly ministering as they undoubtedly do to the comfort and well-being in the acute stages and when the joints are painful, they are inert as regards any heart inflammation. He says he has some lingering affection for the old alkaline plan of treatment in the more chronic stages. He prescribes alkalies with no idea of neutralising any morbid acid, but simply because he thinks they soften membranes, increase osmosis, and thus facilitate the work of the lymphatics. Another plan of treatment which he believes to be of great value is the administration of small doses (one-half grain) of calomel three times a day for periods of three or four days together. In many cases he has seen what has seemed to him an extraordinary improvement under such plan of treatment. After the systematic use of the ice-bag has been omitted it seems to be useful to apply iodine in some form over the integument of the precordia. Painting the surface with liniment or tincture of iodine is a well known procedure. The method which he adopts of inunction of an ointment of iodide of ammonium is, he thinks, much to be preferred. A drachm of iodide of ammonium is to be intimately mixed with an ounce of benzoated lard. The ointment is rubbed into the skin over the heart region by means of a piece of flannel or a pledget of cotton-wool for two or three minutes night and morning. After the rubbing a piece of cotton-wool, flannel, or light tissue is to be kept over the surface. This ointment does not stain the skin like iodine preparations, and it causes little or no irritation, though it readily permeates. He thinks it much to be preferred to our old friend the belladonna plaster, and certainly preferable to the sticky, messy, dirty perforated abominations which some of our patients delight to disfigure themselves with. Moreover, there is no interference with the daily ablutions or effusions with sea-water, which are so generally beneficial.—*Therapeutic Gazette*, February 15, 1899.

37.—THE USE OF MORPHIA IN HEART DISEASE.

Opium still remains one of those drugs whose varied uses must be learned empirically from clinical observation rather than from any theoretical consideration of its *modus operandi*, or from any study of its physiological and toxicological effects in healthy men and animals. Its wide range of action, according to the dose and form of administration, makes it applicable to certain cardiac affections, especially such as are attended with dyspnœa and pain. In many cases of angina pectoris, despite the undeniable advantages to be derived from nitro-glycerine and nitrite of amyl, it must be the main reliance. By the consent of the profession, morphine is the preparation most generally chosen, and the popular opinion that it is both a respiratory and cardiac stimulant (helping the heart perhaps by a general vaso-dilator action, besides allaying morbid irritation and pain) is not without foundation.

Is morphine equally beneficial in aortic and mitral disease? Some (as Dujardin-Beaumetz) think that it is of especial benefit in aortic regurgitant disease. Here it is, he says, a sovereign remedy—as much so as digitalis in mitral insufficiency—opposing the two great symptoms which result from lesions of the sigmoid valves—the cerebral anæmia and the dyspnœa; it also combats the neuralgias of the cardiac and pulmonary plexuses. T. Clifford Allbutt finds morphine equally serviceable in mitral regurgitation, one hypodermic injection being given in the evening. Bartholow also speaks favourably of morphine injections in mitral disease. Germain Sée extols these injections in cardiac dyspnœa, but calls attention to the evils attendant in the use of morphine, such as disturbance of the appetite, digestion and nutrition, formation of the morphine habit, diminution of the urine, &c. He has seen morphine bring on the Cheyne-Stokes respiration when injudiciously administered. Osler thinks that the calming influence of opium in all conditions of cardiac insufficiency is not sufficiently recognised. Tyson takes the ground that persistent cardiac dyspnœa, dependent so often upon passive congestions and pleural effusions, not otherwise relieved, demands an opiate of which morphine is the best. In milder conditions Hoffmann's anodyne may be tried. The American translation of Strümpell speaks of morphine in cardiac disease thus: "The dyspnœa of heart disease is usually the most distressing symptom of all. Here, too, our chief task is, of course, to restore the compensation; but failing this, we must try to relieve the dyspnœa symptomatically. Morphine is most efficient in this respect. In general, morphine is, next to digitalis, the most indispensable remedy in the treatment of

severe heart disease. It is usually well borne, and procures great relief, especially if given subcutaneously. If we have to do with the last stage of the disease we need not spare large doses."

Dr. F. S. Toogood, in the London *Lancet*, November 26, 1898, regards the notion that morphine is dangerous in heart disease attended with renal insufficiency as a prevalent one; he disputes its justness, and commends the use of morphine in desperate cases where other remedies have failed. Although doubting the prevalence of such a view among our best practitioners here, the report of experiences which were illuminating to him may not be amiss for others, as we are inclined to agree with Osler, that the "calming influence of opium in all conditions of cardiac insufficiency is not sufficiently recognised." Toogood has employed morphine hypodermically in those distressing cases (mainly of mitral incompetence) where the exhibition of digitalis, strophanthus, and convallaria excites vomiting, where the stomach retains practically nothing, where the heart is extremely irritable and irregular in rhythm and the pulse in volume, where often an ever-present dyspnoea renders the condition of the patient intolerable from exhaustion and want of sleep, and where there may be also oedema from failing circulation, and a scanty amount of albuminous urine. In these cases the subcutaneous injections have given most gratifying results. The pulse has become steady, strong and regular, the oedema has disappeared, the dyspnoea has been relieved, and the urine, instead of being scanty, high coloured, of high specific gravity and containing albumin, has become normal in amount and character, and the albumin has become much less or has entirely disappeared. Dr. Toogood reports five cases, two of them typical cases, of angina pectoris, where life was apparently prolonged, and a fair measure of comfort maintained by morphine injections; no bad effects from the remedy were noted. One of the other patients had mitral regurgitation with oedema and dyspnoea, urine scanty, loaded with lithates and somewhat albuminous, pulse small, rapid and irregular. Under the influence of morphine injections, he was able to sleep quietly and comfortably; the pulse came down to 80 beats per minute; the urine increased to 70 ounces; the oedema disappeared, and the albumin cleared up. His general health was so far improved that he was able to resume most of his former occupations. Another patient had both aortic and mitral regurgitant disease, and all the ordinary cardiac stimulants having failed, resort was had to morphine hypodermically. A fresh lease of life was given to this patient. In another case diagnosed as obstructive mitral disease, the pulse, first tumultuous and rapid, became almost imperceptible, and the patient was in

a state of collapse. The urinary secretion was nearly suppressed. Under the influence of a hypodermic injection of one-fourth of a grain of morphine every twelve hours the patient began to improve, was able to sleep; the vomiting, before persistent, ceased; the urine became normal in amount, and the tumultuous action of the heart subsided. This patient ultimately recovered so as to be able to resume work. Dr. Toogood closes with the remark "that morphine in large doses is a cardio-vascular depressant is well known, but its soothing effects upon irritable conditions of other organs are so well recognised that I am inclined to think that the undoubtedly beneficial results in cardiac disease are due to its action upon the nervous apparatus of the cardio-vascular system, both central and local, bringing rest to an overstrained organ, and allowing it the chance of developing its recuperative power."—*A leading article in the Boston Medical and Surgical Journal, December 22, 1898.*

38.—THE CONDUCT OF THE HEART IN FACE OF DIFFICULTIES.

By Sir WILLIAM BROADBENT, Bart., M.D., F.R.S.

The author, in an address before the London Medical Society (*Medical Press*, January 8, 1899), said that the difficulties which the heart has to face are sometimes of its own making, sometimes imposed upon it from outside. An over-distended stomach, for example, pushes up the diaphragm and presses upon the right ventricle; the heart is carried to one side or other of the chest by effusion into the pleural cavity, or more rarely is displaced by a mediastinal tumour or aneurysm; or the flow of blood towards the right auricle may be impeded by pressure on the superior vena cava. Difficulties of another kind may arise from obstruction in the arterioles and capillaries—in the pulmonic circulation by emphysema, or by acute affections of the lungs; in the systemic circulation by the numerous conditions which give rise to high arterial tension. The heart adjusts itself to altered conditions in a wonderful fashion. It may be so much displaced by effusion into the left pleural cavity or by traction from a shrunken right lung that its beat is felt as far out as the right nipple, and yet we can trace very little inefficiency in the functional action. Time, however, is an element in this accommodation. The same degree of displacement occurring suddenly, as in pneumothorax, will be attended with severe dyspnoea, and great disturbance of the action of the heart will be occasioned by sudden and

capricious distension of the stomach. Angina pectoris is one of the cardiac affections which may be closely simulated by the effects of dilatation or functional derangement of the stomach. The first question to be put in the case of cardiac pain of anginoid character is as to the circumstances under which it comes on—whether as an effect of exertion or during repose. The earlier attacks of true angina are practically always provoked by exertion, while spurious angina is specially liable to come on during repose. It is true that angina when established may come on in the night, or may be induced by the act of undressing and the contact of cold sheets, but there will be a history of attacks during exertion. Pain and a sense of suffocation may also be brought on by the pressure of the abdominal viscera reinforcing that of a distended stomach on lying down, whether the heart is diseased or sound, and a weak heart may actually be brought to a standstill in this way. Speaking generally, angina pectoris in a woman is always spurious, and the more minute and protracted and eloquent the description of the pain, the more certain may one be of the conclusion. Again, when palpitation or irregular action of the heart, or intermission of the pulse, or pain in the cardiac region, or a sense of oppression follows certain meals at a given interval, or comes on at a certain hour during the night, there need be little hesitation in attributing the disturbance, whatever it may be, to indigestion in one or other of its forms. Nightmare from indigestion is not a bad imitation of true angina. So, also, if any cardiac symptom or pain can be walked off, it may usually be set down as functional, and due to some outside disturbing influence or to nervous irritability. The same may generally be said of intermission of the pulse, of which the patient is conscious, and, though with less confidence, of irregularity of the heart's action—if the patient feels it the irregularity is usually temporary, and not the effect of organic disease.—*Medical Age*, March 10, 1899.

39.—AORTIC ANEURYSM AND HYPERTROPHY OF THE LEFT VENTRICLE.

[The following is taken from the report of a meeting of the Royal Medico-Chirurgical Society, in which Dr. Calvert read a paper on this subject:]

Dr. James Calvert had thought it worth while to see what light the post mortem records of St. Bartholomew's Hospital threw upon the subject, and the research had been made a comparatively light task by Dr. Oswald Browne's recent work

entitled "Aneurysms of the Aorta." Dr. Browne's thesis was based "upon an analysis of all cases of aneurysm of the aorta in any of its parts dying in St. Bartholomew's Hospital during the last thirty years, upon whom an examination was made after death and its results carefully recorded." The result of the research was briefly that with regard to 124 cases of aneurysm of the arch of the aorta, in 68 of them there was no hypertrophy of the left ventricle, in 47 of them the hypertrophy could be perfectly explained by other causes present, in 9 of them the hypertrophy could very probably be explained by other causes present. Therefore, so far as the records of St. Bartholomew's Hospital were concerned, there was practically no evidence in favour of aortic aneurysm being a cause of hypertrophy of the left ventricle.

Dr. W. S. Lazarus-Barlow said that in the last two years there had been thirteen cases of aneurysm of either the first or of the second part of the arch of the aorta examined after death in St. George's Hospital. In eight of these there was expressly stated to be no hypertrophy of the left ventricle; in the remaining five hypertrophy of the left ventricle was associated with either aortic reflux or with kidney disease. These figures corresponded very closely with the larger ones of the author. *A priori* he would not have expected hypertrophy of the left ventricle, inasmuch as the aneurysm would tend to increase the area of the vascular system; he further was of opinion that atheroma of the aorta of itself could not lead to hypertrophy.

Dr. A. Morison had noticed twenty years ago that aneurysms of the aorta need not produce hypertrophy of the left ventricle. The important factor in the production of hypertrophy was leakage through the aortic valves. He pointed out that if there was disease of the coronary arteries, interfering with the flow of blood into the walls of the heart, the valves were exposed to greater strain, and were more likely to suffer.

Dr. Seymour Taylor had, from general impression, formed the opinion that aortic aneurysm led to hypertrophy of the left ventricle, and he urged the author to extend his investigations, and to search for other causes of hypertrophy of the left ventricle in aortic aneurysm. In some cases an aneurysm close to the valves might so drag on them as to lead to incompetency. The elastic recoil and the muscular tissue, small though it was in the aorta, if impaired might increase the resistance, and so play an important part. Where an aneurysm arose in an old person the heart might not be capable of hypertrophy. He thought that hypertrophy of the heart might under certain conditions produce an aneurysm.

Mr. H. W. Page had done his pathological work under the late Dr. H. G. Sutton, who had taught that in aortic aneurysm

the heart was not only not hypertrophied, but that it might even be atrophied.

Dr. Rolleston said that his pathological experience at St. George's coincided with the teaching of Dr. Moore, which the statistics of the paper proved—namely, that uncomplicated aortic aneurysm did not lead to cardiac hypertrophy. This was remarkable, for aneurysm was generally due to atheroma, which, in its turn was usually the result of high arterial tension; and the last factor was in itself sufficient to produce hypertrophy of the left ventricle.

Dr. Norman Moore had always believed and taught the conclusion so well proved in the paper. He laid stress on the importance of weighing the heart before deciding whether there was hypertrophy or not, and on the need for microscopical examination of the kidneys before acquitting them of interstitial fibrosis. If a patient with aortic aneurysm had hypertrophy of the heart there was some other lesion present, such as valvular disease, which was not manifest, or kidney disease.

Dr. E. Cautley said that not only must the heart be weighed, but that in estimating the presence of hypertrophy the weight of the body and the occupation of the patient must be taken into account. Atheroma was rather a result of strain than a cause. In aortic aneurysms the apex of the heart was often displaced without there being any cardiac hypertrophy.—*The British Medical Journal*, January 14, 1899.

40.—AORTIC ANEURYSM WITH PRESSURE SYMPTOMS LIMITED TO THE TRACHEA.

By T. SYDNEY SHORT, M.D.,
Assistant Physician to the General Hospital, Birmingham, &c.

[From Dr. Short's paper:]

An aortic aneurysm producing pressure symptoms limited to the trachea is not a common condition. The following is a good example of such a case:—

Albert D., aged 32, was admitted into the infirmary, under my care, on May 24, complaining of an irritable cough and difficulty of breathing on exertion. He contracted syphilis at the age of 23, and since then had been quite well till six months ago, when the present symptoms commenced. He had never spat up any blood, but had lost flesh considerably. On examining the chest it was found to be resonant all over, with very harsh breath sounds, so harsh that the inspiration was raucous. There was slight general bronchitis. The sputum brought up during that day was muco-purulent, and inclined to be nummular.

During the examination he had a sudden fit of coughing, which lasted several minutes and left him quite exhausted. I was immediately attracted by the sound of the cough. It was

not the usual ringing cough that we get to know so well in aneurysm, but, while brassy in character, it had a peculiar break in it which can be best likened to the break in a turkey's gobble. A very careful examination was now made, but no dulness or pulsation could be detected anywhere in the usual aneurysmal areas. The heart apex was just outside (a quarter of an inch) the normal position, but was not displaced downwards. There was no murmur at or near the cardiac area, nor in the sterno-clavicular regions. The pulses were equal and normal, as were the pupils. On examining his larynx I found that both cords moved perfectly, but that the left one was pink with a few dilated vessels, and that at the anterior part, close to the cushion of the epiglottis, was a dark red spot, evidently a hemorrhage due to the violence of the cough. On listening to the chest with immediate contact of the ear (a plan I always adopt in such cases) no thrill or pulsation could be detected in front, but at the back of the chest, on the right side, internal to the angle of the scapula, and close to the spine, there was a small area of about the size of a crown piece, where the naked ear detected a deep, distant pulsation. It was not heard on the left side. There was no sign of venous fulness and no enlarged glands could be made out.

On reviewing the case, the cough seemed the most important point to be considered. My experience leads me to say that this kind of cough is encountered in three conditions:—(1) The presence of a foreign body in the trachea or larynx; (2) ulceration of the trachea associated with sloughing; and (3) pressure upon the trachea. I want especially to draw attention to the fact that what I am referring to is not the ringing cough familiar to all in cases of aneurysm. There is something in addition—a peculiar clack or break with the cough, the cough itself being paroxysmal like whooping cough. In the absence of direct evidence of either of the first two causes, it seemed probable that there was something causing pressure on the trachea. Was it an aneurysm or a growth? A diagnosis of aneurysm was made on these grounds:—(1) The presence of pressure signs without venous fulness; (2) the enlargement of the left ventricle without evidence of renal disease or valvular disease; (3) dyspnoea increased by exertion; (4) absence of glandular enlargement; (5) gradual but not excessive emaciation; (6) certain evidence of previous syphilis; (7) the age and arduous occupation.

During the time he was under observation his condition showed very little change, except that he gradually became weaker. He was unable to lie down in bed, and had to be propped up at night. The cough remained much the same; he always had a violent paroxysm soon after waking in the early morning, with expectoration of nummular sputum, and a recurrence once or twice only in the day. There was practically

no alteration in his symptoms, and no treatment did more than relieve him temporarily. The manner of his death, early in September, was somewhat unusual. About mid-day he became faint, and severe orthopnea supervened. The pulse became small and very rapid. He went a livid, ashy colour, and sat up in bed with his head resting between his knees. The whole surface of the body was covered with a cold, clammy sweat. There was no suffocation or sign of severe tracheal obstruction. He seemed to die from gradual cardiac failure, extending over about seven hours. After death a small saccular aneurysm, which might have held a walnut, was found arising from the upper part of the arch of the aorta between the innominate and the left carotid arteries. It was in the middle line and pressed directly on the trachea, but the tube was only slightly narrowed and readily admitted a finger. There was no erosion of its inner surface. The heart muscle was distinctly fatty.

It is interesting to note that the sign known as "tracheal tugging" was absent throughout in this case. From the position and small size of the sac it appeared that any pulsation communicated to the air-tube would be directed backward, and that no downward traction on the bifurcation would result. The absence of pain was noticeable until about a fortnight before his death, when he complained of pain behind the sternum; up to this time the only pain he had was epigastric, and this only after a severe fit of coughing. The exact significance of the small area of pulsation on immediate auscultation near the spine is doubtful. The impulse must have been conducted in some manner not easy of explanation.—*The Practitioner*, December, 1898.

DISEASES OF THE ORGANS OF RESPIRATION.

41.—INTUBATION OF THE LARYNX.

By FRANK W. WRIGHT, M.D., Health Officer, New Haven, Conn.

[The following is taken from the commencement of Dr. Wright's paper. Intubation is still rarely done in England:]

Although intubation was simpler than tracheotomy, the fact that expert intubationists were few and that the results of neither operation were satisfactory, prevented intubation until the advent of the treatment of diphtheria by antitoxin serum, from being as generally practiced as at the present time. This operation, in conjunction with the diphtheritic antitoxin serum treatment, has so revolutionised the results of the treatment of diphtheritic laryngitis that instead of mortality from 90 to 95 per cent., we now expect, under favourable conditions, as

high a percentage of recoveries. This operation is at the present time done to the almost entire exclusion of tracheotomy. The latter operation is not performed in any of the public institutions or in private practice except when an intubationist is not at hand or when intubation has failed to give relief on account of the membrane having extended beyond the reach of the tube. Although the great majority of intubations are done to relieve the dyspnoea due to diphtheritic laryngitis, the usefulness of the laryngeal tube is by no means confined to this class of cases. It is applicable to all forms of acute stenosis when the trouble is within the larynx, it, of course, being obviously useless in retro-pharyngeal abscess or œdema of the epiglottis and surrounding parts when the tissue involved is so situated as to close over the head of the tube. It is also applicable in chronic laryngeal stenosis, due to stricture of the glottis. O'Dwyer said, as long ago as 1888, that "had intubation of the larynx proved a complete failure in the treatment of croup I would still feel amply repaid for the time and expense consumed in developing it, for I believe that it offers the most rational and practical method yet devised for the dilatation of chronic strictures of the glottis."

The advantages of intubation over tracheotomy are that the former is more quickly done—there is no cutting—and is consequently more readily consented to; does not require trained assistants or trained nurses; no special preparation is necessary; the tube remains in the larynx but a few days, instead of several weeks, and there is no wound offering a point for fresh infection, which requires careful attention long after the original trouble has disappeared. If it is practicable, a trained nurse is desirable, as in all serious cases, but is not absolutely essential; any intelligent person will do who will obey instructions and can put herself in touch with the patient. The indications for intubation are dyspnoea accompanied by a croupy cough, partial or complete aphonia, a pallid countenance, retraction of the supra-sternal space on inspiration, shortened expiration and prolonged inspiration, with little or no fever, but never for dyspnoea due to pulmonary trouble, which may be known by the high temperature, character of the cough, loss of voice, livid countenance, shortened inspiration and prolonged expiration, and but slight retraction of the supra-sternal space. While intubation seems simple and has given very gratifying results, the fact that it is a serious surgical operation must not be forgotten, and it should only be practiced when dyspnoea is so great as to threaten life. On the other hand, it must be remembered that prolonged dyspnoea exhausts the strength and renders the patient susceptible to pulmonary complications. The better the physical condition the more

favourable the prognosis. The dangers of intubation are traumatism, either from unskilful introduction of the tube, or from the tube imperfectly fitting the larynx, or from being improperly constructed, and from the occlusion of the lumen of the tube by the exfoliating membrane.—*Pediatrics*, February 15, 1899.

42.—THE VALUE OF METALLIC PERCUSSION COMBINED WITH AUSCULTATION.

By M. MOUSSOUS.

The author (*Revue mensuelle des Maladies de l'Enfance*, January, 1899, p. 1) calls attention to metallic percussion with auscultation (the coin-test) in the diagnosis of pleural effusions in children, and considers it a most valuable means in distinguishing between the dulness due to pleural effusion and that depending upon pulmonary consolidation. The value of the coin-test in adult patients in conditions other than pneumothorax has already been investigated by Pitres, and later by his pupil, Sieur. Their observations have shown that when the lung is healthy the sound transmitted to the ausculting ear is obscured, smothered, and without metallic timbre. In the presence of a liquid effusion, however, whether it be serous, fibrinous, purulent, or sanguineous, formed in a pleural cavity free from adhesions, the transmitted sound has a clear, sharp, metallic ring. Ordinary congestions of the lung and the ordinary inflammatory or neoplastic indurations fail to give the coin-test in its purity. The same is true of bronchopneumonic foci, hæmoptoic infarcts, tuberculous infiltrations, and even encysted pleurisies and liquid effusions of the pericardium. Not only may the presence of fluid thus be recognised, but also the upper limit of the effusion in pleuropneumonia and the portion of the zone of dulness which corresponds with the effusion in pleurisies with false membrane. The author has devoted several years to study of this test as applied to young infants with the hope of proving its value in a class of cases which offers greater difficulties in diagnosis than do similar conditions in the adult, and has demonstrated to his satisfaction that this test constitutes a very valuable addition to the ordinary methods of diagnosis. He finds that in the young child, as in the adult, the metallic click is muffled, and loses its ringing timbre in traversing a healthy lung. The percussion should be made more gently than in the adult, and the non-ausculting ear should be stopped. The same quality in the transmitted sound is to be observed with

broncho-pneumonia and croupous pneumonia. In these cases auscultation is made at the point where the vesicular murmur was suppressed or replaced by râles (whether dulness be present or not), the percussion being practised at a point on the hemithorax diametrically opposite. Not only is the sound impure and without metallic ring, but the sound of the stroke itself is enfeebled, and is notably more muffled than on the healthy side; sometimes it disappears entirely. In the presence of pleural effusions, however, the coin-test was very clear in four out of seven cases, and in the remaining three cases was clearer than on the healthy side, but lacked the silvery quality. In six cadavers of young infants varying in age from a few days to one year, with one of a child of six or seven years, artificial pleural effusions were produced with varying quantities of liquids, and the coin-test compared with the results before injection. In no case was the metallic timbre observed before the effusion was produced, while in only two instances did the sign fail, and in one of these the sound was clearer, but its metallic quality was not distinct. In both these cadavers, however, larger quantities of fluid (above 200 grammes) gave a successful test.

[When one considers the frequent confusing results offered by physical examination of the chest in young children, even when fluid is present in considerable amount, the value of an additional physical sign, though not absolutely pathognomonic, cannot be too highly estimated. It is to be hoped that more extensive clinical experience will confirm the promises of Dr. Moussous's observations.]—*Abstract in the American Journal of Medical Science, April, 1899.*

43.—THE BACTERIOLOGY OF PLEURAL EFFUSIONS.

By J. O. SYMES, M.D., D.P.H.,

Bacteriologist to the Bristol Royal Infirmary.

[The following is taken from Dr. Symes' paper on the Bacteriology of some Suppurations Complicating Pulmonary Disease:]

Pleural effusions may be divided into three classes:—(1) Mechanical, such as occur in cardiac disease, in some forms of renal disease, and in malignant implication of the pleura. (2) Serous effusions of microbic origin. (3) Purulent effusions of microbic origin. The only simple effusion I have examined was taken from a patient suffering from malignant disease of the lung. The fluid was sterile. At the post-mortem examination secondary implication of the pleura was discovered. The

commonest exciting cause of non-purulent pleural effusion is undoubtedly the tubercle bacillus; fully 75 per cent. of so-called "idiopathic" pleurisy having this origin. Unfortunately it is seldom possible to demonstrate tubercle bacilli by centrifugalisation and film preparations, but if large quantities of the fluid (10 c.c.) be inoculated into guinea pigs positive results will be obtained in a large proportion of cases which would otherwise be styled "rheumatic" or "idiopathic." Streptococci and pneumococci are also capable of exciting pleurisy, often as a primary disease, and further, if the conditions be such as to permit of the growth of these micro-organisms, the effusion will become purulent. Tubercular effusions seem less liable to become purulent. Of 109 cases of empyema collected by Netter, twenty-nine were associated with pneumococcus, three with pneumococcus and streptococcus, forty-eight with streptococcus, fifteen foetid cases with various saprophytic organisms, and only six with the tubercle bacillus. I have had the opportunity of making a bacteriological examination in seven cases of empyema. In three the pneumococcus only was found, in one the pneumococcus with staphylococci and streptococci, in two staphylococcus (one aureus, one albus), and in one tubercle bacillus and staphylococcus albus. The pneumococcal cases all followed attacks of pneumonia.

Case 1.—Aged 2 years and 5 months. Had broncho-pneumonia, and subsequent empyema, which was drained. The case terminated fatally, and at the post-mortem examination there was found an abscess at the base of the lung on the affected side. The pus from the empyema during life and from the abscess after death showed pneumococci. *Case 2.*—Aged 4 years. Said to have had pneumonia one month previously. Pus from empyema showed pure culture of pneumococcus. *Case 3.*—Aged 8 years. Lobar pneumonia four weeks previous to operation for empyema. The effusion showed presence of pneumococcus. *Case 4.*—Empyema opened six months previously, but still discharging. The pus showed capsulated diplococci, probably pneumococci, also staphylococcus pyogenes aureus.

It is noteworthy that all these pneumococcal cases required operation and drainage. It has been held by some observers that a pneumococcal empyema may frequently be cured by simple aspiration, but this is a point on which there is likely to be much difference of opinion. There can, however, I think, be no doubt that the pneumococcus infection is less dangerous than that due to streptococcus or staphylococcus. Both the staphylococcus suppurations included in the seven cases were fatal.

Case 1 had a history of long-standing pulmonary trouble, dating from an attack of bronchitis thirty years previously. The post-mortem examination showed that the left pleura was converted into thick calcified plates, and the contained pus showed staphylococcus pyogenes albus.

Case 2.—Aged 3 months. The empyema was preceded by a broncho-pneumonia. The pus drained off during life showed staphylococcus pyogenes aureus, and the same organism was present in the pus from an abscess cavity in the lung of the affected side, as discovered after death.

It is doubtful whether the following should be classified as a case of empyema :—

Case 5.—Clinically there were signs of fluid at one base, but the exploring needle only brought away thick caseous material, which when examined microscopically was found to contain cocci (which on culture proved to be staphylococcus pyogenes albus) and tubercle bacilli. Such a condition may be regarded as a tubercular pleuritis rather than empyema, but the case serves to raise the question as to whether it is advisable to operate when it is known that the empyema is of tubercular origin.

In conclusion, I may say that the manner in which organisms reach the pleuritic cavity is a matter for conjecture. It would not seem probable that either pleurisy or empyema can be simple primary affections. In health the air in the lungs must be as a rule free from microbic life, or if organisms be present we should not, judging from analogy, expect them to have the power of penetrating a healthy pleura. On the other hand, in diseased conditions of the lungs the neighbouring pleura will certainly suffer, and though a damaged membrane the organisms may pass out just as does the bacillus coli through an injured gut wall. Probably exposure to cold has this injurious effect upon the pleura, and thus predisposes to pneumonia and pleurisy. Our present knowledge of the lesions excited by the pneumococcus and its general infectivity, point to the unsatisfactory nature of our present methods of treatment, and to the need for an efficient curative serum.—*Bristol Medico-Chirurgical Journal*, March, 1899.

44.—NEW VIEWS IN PNEUMONIA.

The researches of bacteriologists have thrown so bright a light upon the etiology of pneumonia that, as in the case of many other diseases, our opinions as to its cause have undergone a complete revolution. Dr. Andrew H. Smith, in his article on "Croupous Pneumonia," in the forthcoming volume of the *Twentieth Century Practice of Medicine*, has done much to elucidate these moot points and to remove the difficulties in the way of a more intelligent understanding of the causation of the disease. He takes the ground that pneumonia is not an inflammation of the lung, but holds that it is simply a process of germ culture going on in the air cells, the culture medium being supplied from the functional vessels, while the nutrition of the parenchyma remains undisturbed. Dr. Smith

is of the opinion that the key to the whole problem is in the double circulation in the lungs, a thing known to every one, but the bearing of which upon the pathology of pneumonia has been hitherto overlooked. Attention is drawn to the fact that in no other organ of the body but the lung could structural health and diseased action go on side by side, for it is the only one—although a somewhat analogous condition is met with in the heart—in which the blood supply for nutrition and function are separately provided for. Taking this view of the cause, the author thinks that the natural sequence of events in an attack of pneumonia would seem to be as follows :—(1) The occurrence of some cause of depression, either local or general, which favours the germination of pneumococci, already present in some one of the smaller tubes. (2) The formation of a colony until it reaches the group of air vesicles that are terminal to the tube in question. (3) The setting up of an irritation in these vesicles, causing a fibrinous exudation, an emigration of leucocytes, and a diapedesis of red cells from the functional capillaries. (4) The formation of a colony of pneumococci in the medium afforded by this exudate. (5) Arrest of the blood stream in the functional capillaries, followed by accumulation of free pneumatic acid in the parenchyma of the affected area. (6) Overflow of exudate into neighbouring lobules, starting the process in them also. (7) Arrest of germ growth by exhaustion of the medium and the accumulation of free acid in the tissue of the lung. Up to this time there has been a constant formation and absorption of toxin. (8) Retrogressive changes in the exudate, preparatory to its removal by absorption. (9) Probably, in this latter process, formation of an antitoxic principle. (10) Entire removal of the exudate and restoration of the vesicle to its normal condition. (11) Resumption of the functional capillary circulation.

In discussing the phenomena of crisis, two interesting points are brought out—the exhaustion of the medium in which the culture process is going on and the consequent failure of the supply of toxin, and the accumulation of free pneumatic acid in the pulmonary parenchyma when the functional circulation is suspended. As might be expected, so radical a change of view as to the pathology of the disease carries in its train numerous new views in respect to treatment. More than one-third of the article is devoted to a consideration of this branch of the subject, in marked contrast to the usual custom of writers. We have seen that Dr. Smith asserts that pneumonia is not an inflammation of the lung, for the reason that, in his opinion, it does not affect the nutrition of the organ, but is a process of germ culture in which the pneumococcus grows in a culture medium supplied by the functional capillaries of the lung. Hence his argument

runs as follows, that therapeutic efforts should be directed toward the arrest or inhibition of this germ culture. Inasmuch as this culture medium is derived from the blood, any substance added to the latter will be also found in the former, and if that substance is inimical to the growth of the coccus, it will in so far act in the direction sought. Fortunately the pneumococcus is the most vulnerable of all the germs and possessed of the least vitality. We have, therefore, according to Professor Smith, *a priori* a probability that its career in the lung can be modified by drugs. The one from which the most satisfactory results in this direction have been obtained is the salicylate of sodium. Creosote is also valuable, as are likewise large doses of quinine, which have been credited with an abortive effect long before the existence of any kind of micro-organism was recognised. Professor Smith thinks that the treatment of pneumonia should embrace the following points:—An attack upon the pneumococcus through the medium of the blood, the object being that the exudate, when it escapes into the air cell, shall be impregnated with a substance that will unfit it to serve as a culture medium. Stimulation of the emunctories to throw off the poison as it forms, sustaining the vital powers, and particularly the heart—cardiac stimulants. Relieving the pulmonary circulation—vasodilators. Compensation for loss of respiratory surface—inhalations of oxygen. Reduction of excessive temperature—cold to surface, antipyretics (!) Relief of incidental symptoms.

In regard to the treatment of pneumonia by means of anti-toxin, Professor Smith believes with most scientific men that, while there may be and probably will be a great future for orrhotherapy, at present the results have been too indecisive to be relied upon as curative or remedial in this disease. However, the news has recently come from Berlin that Professor Wassermann, of that city, a pupil of Professor Koch, hopes that he has discovered a serum cure for pneumonia. In that part of Professor Smith's monograph treating of clinical types of pneumonia, a suggestion is made in respect to classification. The proposal referred to is that, instead of—as is the custom of some writers—classifying pneumonia according to the condition from which it appears to arise, it will be sufficiently definite to recognise three types of cases of pneumonia—sthenic, asthenic, and obstructive. There are many more features of interest in Professor Smith's work which we should like to notice, but it would be impossible within the limits of an article to do more than give the chief points. However, this much may be said, that the "new views on pneumonia" are likely to prove a most valuable addition to medical knowledge.—*From a leading article in the Medical Record, March 25, 1899.*

45.—PNEUMONIA.

By WILLIAM WHITLA, M.A., M.D., Physician,
Belfast Royal Hospital, &c.

[The following is taken from Dr. Whitla's paper:]

From clinical observations alone I have been satisfied for many years that pneumonias frequently differ from each other more than could be reasonably accounted for by the theory of the personal equation, and some of my old pupils may remember that in the hospital wards I have insisted upon their accepting it that pneumonia was but a symptom of several different diseases; perhaps this was over-stating it, however. Doubtless other forms of microbe will be discovered, especially in the epidemic forms of the disease. Thus, in one recent epidemic of pneumonia in Middlesbrough, Klein discovered a bacillus different from those enumerated. A study of these epidemics shows a marked variety in the symptoms, mortality, method of spreading, and other features, strongly suggestive, in the absence of bacterial evidence, that they are caused by different microbes. The importance of the subject lies in the consideration of how far we can go in recognising the different forms of the disease at the bedside. I would venture to suggest that when we meet the orthodox pneumonia in an adult with its classical symptoms, we are fairly safe in assuming that we are dealing with the fever caused by Fränkel's micrococcus. In such a case we shall probably find a sudden onset with costal pain and fever, often commencing with a rigor; fine crepitation, generally confined to inspiration, will be heard over the base of the lung almost as soon as we examine the first time. My experience is that this is nearly always present in every case if we take care to examine the borders of the affected region frequently. The lung rapidly passes into the stage of hepatisation, with bronchial breathing or tubular breathing; the respirations increase in number, herpes appears on the face, the temperature after the first twenty-four or thirty-six hours' rise shows a markedly continuous type, and the area of the consolidated lung shows little tendency to enlarge, keeping in general terms within the range of the limits of the lobe first affected. The sputum is of the characteristic rusty type, and the total physical signs show little tendency to change, or undergo, as a rule, little alteration after the second or third day till after the crisis, which generally appears about the seventh or eighth day or may be prolonged into the tenth. A little pleurisy is, perhaps, always present. Dr. Thompson, of the Bellevue Hospital, has pointed out that of late years lobar pneumonia often fails to follow this definite course, and,

in his opinion, it departs widely from its characteristic clinical symptoms and notably its duration; and he is probably correct in surmising that these alterations are in some way depending upon the advent of influenza ten years ago.

Recent opinions are in favour of influenzal pneumonia being identical with erysipelas of the lung, and several authorities, including Finkler, maintain that it is the result of the specific infection of streptococcus pyogenes. It is, however, more probably a mixed infection, in which the streptococcus plays the most prominent part. Finkler found it always present in every case wherever micro-organisms were capable of demonstration, and he states that in 45 cases of influenzal pneumonia he regarded 43 of them as streptococcic and only two as true lobar pneumonia. Leyden of Berlin, found three types of influenzal pneumonia—*i.e.*, the simple streptococcic, the true croupous in which Fränkel's diplococcus was present, and mixed forms, these latter often being complicated with pleural inflammation. No observations about the presence or absence of the influenzal bacillus in the lung are available. Whatever may be the exact bacteriological features of this form of pneumonia, there can be little, if any, doubt of its clinical characteristics. Its onset is often sudden, and the temperature may bound up with alarming rapidity; there is often no marked pleural pain or herpes or rusty sputum, and for three or four days there may be absolutely no physical sign of pulmonary mischief. When the physical signs do appear they are those of croupous pneumonia, but they differ widely from it in distribution. In the first great epidemic I nearly always found that fine crepitus was soon followed by tubular breathing, indicating consolidation; but this was confined to islands of pulmonary tissue, separated from each other by portions of healthy lung, or by lung the seat of œdema or bronchial catarrh. The consolidation spread indefinitely in a mean and treacherous manner, very different from the honest trend of a true croupous pneumonia. Thus within an area not much larger than the palm one could hear nearly every common variety of chest sound by moving the stethoscope about, from fine pneumonic crepitus, sub-mucous râles, and coarse ronchi to tubular or bronchial breathing with consonating râles. The expectoration was sometimes profusely purulent or muco-purulent, and sometimes entirely absent; dulness of percussion note was seldom well marked, and this moved about so that one doubted and lost confidence in the accuracy of the previous observation. The duration varied greatly, often much longer than the typical pneumonia of seven or eight days. There is, however, one clinical feature of influenzal pneumonia which is singularly omitted from Moore's description, and which is absent in the reports of the German

observers. This is, to my mind, the most remarkable and most important characteristic of the disease. The pneumonia of "gripp" is markedly contagious. I noticed it in the great epidemic of 1890. Here two and three, and in one instance, in an isolated residence along the shore of Lough Neagh, there were five cases of pneumonia in one household where the disease appeared. It seemed to attack those who had already passed through influenza, those who were suffering from it, and those who appeared to have escaped. I did not find the mortality in my own cases to be as high as in the ordinary lobar form, but this was probably an accident, as I saw few cases in elderly subjects; the most of these, however, were rapidly fatal.

With the question of secondary pneumonia, as seen in Bright's disease, typhoid, measles, and diabetes, it is unnecessary to deal. These forms of the disease are probably identical in pathology or bacteriology with those already referred to, and the clinical features of these are always more or less modified by the symptoms of the primary disorder. The modifications observable might well demand another paper, especially the symptomatology of diabetic pneumonia, where the disease is strangely latent, and where the temperature is occasionally very low. —*Dublin Journal of Medical Science*, April 1, 1899.

46.—INHALATION OF OXYGEN IN ACUTE AFFECTIONS OF THE LUNGS.

By ANDREW H. SMITH, M.D., of New York.

[The following is from Dr. Smith's paper:]

It is a serious error to defer the use of oxygen until the dyspnoea has become urgent. By its timely employment the cardiac force can be conserved, and congestion of the unaffected lung territory is in a great measure prevented. But inasmuch as blood even under the most favourable conditions will not take up an excess of oxygen, if we delay too long, and suffer the excess of air to become too much restricted, no addition of oxygen acting upon the limited quantity of blood circulating in the lungs will suffice to restore the balance and regain the ground which has been lost. While the results obtained from oxygen in the croupous form of pneumonia may not be so favourable as in the bronchial, still it is capable of rendering valuable aid in a large proportion of cases. A common source of disappointment lies in reserving its use until a period when, for reasons already considered, its value is

comparatively limited. Even in those cases it may serve to bridge over a time of special danger, but the best results are obtained when it is given more or less freely from the moment that it becomes clear that the case is one of more than moderate severity. Its good effects will be shown in lessened frequency of the pulse and respiration, a better colour of the face and lips, and fewer moist râles in the chest.

In spasmodic asthma it would seem as if the conditions were such as to insure most satisfactory results from the use of oxygen, and in practice relief is generally obtained from it almost immediately. But there are cases in which it does very little good, if any. Repeatedly witnessing such paradoxical results has led me to ask myself whether there may not be a form of asthma in which the spasm includes the blood-vessels of the lung as well as the air-tubes. I cannot otherwise explain why cases apparently similar to others which yield at once to the gas should be entirely rebellious to its influence. In using the compressed gas, it is allowed to escape from the cylinder through a wash-bottle, the valve being so adjusted that the gas bubbles gently through the water. From the wash-bottle the gas is carried to the patient's mouth through a flexible tube provided with a mouthpiece of glass or hard rubber. If the patient is in a condition to hold this in his mouth no more will be required. Otherwise, it must be held by an attendant in such a position that the escaping gas will be drawn into the lungs with the current of inspired air. A still better way, especially if the patient is comatose, is to pass a small, flexible catheter through one nostril into the nasopharynx, and to connect this with the wash-bottle. In this way very little of the gas is wasted. If it is desired to add any volatile substance to the gas inhaled, a solution containing it may be made to replace the water in the wash-bottle. There is no advantage in a lavish use of the gas, as the blood will take up only a very limited amount. If it escapes too freely it adds to the sensation of breathlessness, as is the case when one faces a strong wind. Only pure oxygen should be employed. The addition of nitrous oxide with the idea that it is more soluble in the blood should be condemned, as the oxide is useless for the purpose of respiration, and interferes with the proper interchange of gases within the lungs.

In pneumonia the indication for a resort to oxygen is present as soon as the respirations exceed thirty-five per minute, and earlier than this if mucous râles develop outside of the area of consolidation, or if the lips assume a dusky hue. Under these conditions it may be given continuously or during a prescribed number of minutes in each hour.—*Medical News*, November 26, 1898.

47.—PHTHISIS PULMONUM.

To satisfactorily refer to even a tenth of the literature which has recently appeared regarding phthisis pulmonum and tuberculosis generally, would require several scores of pages. Some notes, however, may be of value at present concerning the subject. Aufrecht (referred to *Schmidt's Jahrb.*, Leipzig, 1899, S. 38) still regards phthisis, as he has often stated in earlier papers, as commencing with a chronic broncho-pneumonia, which permits of tubercle bacilli finding a lodging, not with a primary tubercular growth. He lays great stress upon the value of a healthy condition of the blood, and so gives iron freely. J. E. Squire (*Am. Journ. Med. Sc.*, Philadelphia, November, 1898) read a paper in 1894 before the Royal Medical and Chirurgical Society of London upon the influence of heredity in phthisis, showing that, in 275 families of 1,745 children 24.87 per cent. became tubercular, although the parents were free from it; 33.71 per cent. of 1,182 children of phthisical parents developed that disease, or about 9 per cent. more. His present paper deals with 1,000 families and 6,450 children. Among these the parents were free from phthisis in 673 cases, the father phthisical in 148, the mother in 135, and both parents in 44; that is 327 with a history of the presence of the disease in the parents. The difference between the total death-rates is a little less than 10 per cent., although when both parents were affected the proportion rises to about 20 per cent. The infantile deaths show no great differences, nor does the average number of children to each family, with the exception of those whose father and mother both were or became phthisical. The moral of the whole affair lies in the comparatively slight difference between the frequency with which phthisis occurs among the offspring of phthisical and non-phthisical parents, leading to the conclusion that it is largely an infective disease and not a disease induced to any great extent by hereditary taint.

Rudio-Jicinsky (*New York Med. Journ.*, February 18, 1899) discusses the data from twenty cases in which investigation for pulmonary tuberculosis was made by means of the X-rays, used by himself or by his colleagues. In each case the diagnosis arrived at by the ordinary methods is given, along with that made from the skiagraphic appearances. Five of the twenty cases were thought to be free from phthisis pulmonum after the usual mode of examination, while only one of these passed the test of the X-rays as non-tubercular. Two cases pronounced to be phthisis were regarded after being skia-graphed as free from it; one was seen to have peritonitis with effusion, the other clear, transparent lungs. As far as the

exceedingly scanty and inadequate notes of the after-histories go, the fluoroscope proved to be a more accurate means of diagnosis than the customary physical methods. An interesting series of figures, not dealt with in the paper itself, might be deduced from comparison of the mensuration and weight of the different patients, especially with regard to their family histories. Thus of the three cases described as non-tubercular, all of them males, one only had a satisfactory family history, and he showed the least power of full thoracic expansion and the smallest difference between the girth of his chest and waist. Of the phthisical patients, four males gave a good, and four a "not good" family history (by not good we presume a tubercular strain is indicated), while five females had a good and four a bad account to give of their progenitors. One of the male phthisical patients with a bad history is given as being able to expand his chest 3 in., until it became 9 in. greater in girth than his waist on full inspiration, when the measurement of the chest reached 39 in. in a 5 ft. 8 in. man, weighing 10 st. 8 lb.

King (*Med. Rec.*, New York, December 3, 1898), discussing the etiology of tuberculosis, as shown by 100 cases, is also forced to the conclusion that hereditary is an insignificant causative factor. Of the 100 tubercular patients, one or both parents had been tubercular in twenty-eight; of 100 non-tubercular persons, taken as a contrast, twenty-six showed a similar history. In twenty-eight of the 100 infected, clear evidence of infection was obtained.

Fränkel (*Berl. klin. Wchnschr.*, January 9, 1899) deals with the prophylaxis of tuberculosis. Cornet, in 1899, postulated that expired air never contained tubercle bacilli or spores, and that the bacilli in the sputum, while it is still moist, cannot be disseminated through the air. Flügge, however, in 1897 demonstrated that the acts of coughing, sneezing, and even of speaking, cause bacilli to be ejected into the air, the fine drops of moisture present in it allowing them to retain their vitality and their conveyance through considerable distances. Fränkel argues thus: As in the course of even ordinary conversation a phthisical patient may introduce bacilli into the air, and very many more when coughing or sneezing, destruction or sterilisation of the sputum is insufficient; while the best method of preventing the dissemination of the organisms is afforded by specially constructed face masks, formed so as to catch the drops of fluid expelled in speaking, coughing, &c. Hübener has shown that in patients wearing such a mask the colonies of *M. prodigiosus* upon agar plates placed a short distance in front of the mouth fell from an average of 527 without, to 10 with the mask, after ten minutes' speaking; from 94 to 0 after three or four acts of coughing; and from

innumerable to 415 after one sneeze. Further particulars concerning the masks, their benefits and disadvantages, should be gathered from the original paper.

Minor contributes an article in favour of the hygienic treatment of phthisis, as against the medicinal, in the *New York Med. Journ.* for January 14, 1899; his text may be briefly stated in M'Lean's words (*Journ. Am. Med. Assoc.*, Chicago, February, 1899), "If the phthysical patient would live, he must work for it." Weaver (*Journ. Am. Med. Assoc.*, Chicago, January 14, 1899) has got good results by a method of forcible alveolar expansion in the lungs, in which a deep inspiration is taken, the glottis closed, and straining efforts made; this is to be done every five to fifteen minutes. Other additional manœuvres that are practically immaterial may be directed. Of fifty-six cases treated on these lines, of nineteen in the first stage of phthisis, all recovered (at the time); of twenty-eight in the second stage, sixteen were cured and three died; of nine in the third stage, six were improved temporarily.—*From Dr. Lockhart Gillespie's Summary in the Edinburgh Medical Journal, May, 1899.*

48.—TREATMENT OF PULMONARY TUBERCULOSIS BY ANTI-TUBERCULOUS SERUM.

By Dr. C. THEODORE WILLIAMS and Dr. HERBERT HORROCKS.

[Taken from the report of authors' paper read before the London Medico-Chirurgical Society.]

The anti-tuberculous serum was procured at the Jenner Institute of Preventive Medicine by inoculating a horse—an animal generally considered to be immune to tubercle—with increasing doses of tuberculin until no reaction followed, the maximum dose being 500 c.cm., which was given on two occasions. Twenty-one days after the last inoculation one litre of blood was drawn from the left jugular vein, the clot removed, and the serum mixed with a weak solution of carbolic acid (for preservative purposes), and transferred to sterilised bottles. Afterwards this was injected hypodermically with all antiseptic precautions into the selected patients. The cases first chosen were either those (1) of acute lung tuberculosis, or (2) of chronic lung tuberculosis where acute disease had supervened. Five patients were submitted to the treatment, the doses commencing with 1 c.cm., and gradually being increased to 10 c.cm., the object being to bring the system under the influence

of the serum as soon as feasible. The treatment was carried on for periods of from fifteen days to three months, and the number of injections administered was from fifteen to twenty-five. The immediate result was rise of temperature and of pulse, slight urticarial or erythematous rashes, and enlargement of the axillary glands. The effect on the lungs was increase in the amount of expectoration, diminution in the lung tissue contained therein, except in one case, where it increased, diminution of septic organisms in two cases, and their disappearances in two cases; in one case these were altogether absent. With the exception of one case there was no reduction in the number of tubercle bacilli. The general condition of the patients deteriorated, and one died from a fresh eruption of tubercle and its attendant pleurisy some time after the termination of the injections. Two of the patients gained a few pounds in weight, but the physical signs at the close of the treatment showed that tuberculisation and excavation had gone on unchecked by the serum injections. The urticarial rashes were apparently due to the amount of carbolic acid added to preserve the serum, as, on the quantity being reduced, these rashes no longer appeared. The authors then determined to try (1) serum taken at longer intervals after the horse's inoculation with tuberculin; (2) to employ smaller doses, beginning with 1 c.cm. and never exceeding 5 c.cm.; and (3) to use it in cases of incipient and limited tuberculosis, as well as in cases of limited excavation. The serum was now taken seventy-two days after inoculation, and tried in two cases of limited unilateral tuberculosis, and also in two of excavation limited to one lung, and the results proved a marked contrast to those of the previous experiments. The treatment was carried out for longer periods, owing to its being better borne than in the first group, and from thirty-two to fifty injections were given in doses varying from 1 c.cm. to 5 c.cm. The injections in no case gave rise to any local swelling or irritation or rash, either of urticarial or erythematous type, but in all the patients the axillary glands became enlarged during the treatment. The temperature sometimes rose after the injections in one case; in the other three cases the records were invariably normal or subnormal. Pulse-rate and respiration-rate were not materially affected. All four patients gained weight, the two excavation cases most, one $12\frac{1}{2}$ lbs. and one a stone; the tuberculosis cases $5\frac{1}{2}$ and 6 lbs. respectively. All increased in strength and vigour, and were able to return to their work, except one patient, in whose case a lighter occupation was substituted for a comparatively trying one. Cough and expectoration diminished in all, and in one case altogether ceased. Physical signs showed limitation of the area of

disease in the lungs in the consolidation cases, and in the two excavation cases quiescence of the cavity in one and complete contraction in the other. With regard to the sputum contents, in three cases the tubercle bacilli greatly diminished in number, and at times disappeared altogether, but at the close of the treatment there were still some to be detected. In one case they did not diminish at all, though the patient improved generally. The other organisms—diplococci, staphylococci, and streptococci—disappeared in the two cavity cases, and in the consolidation cases they were noted throughout, though in diminished numbers. In one excavation case two injections of streptococcic serum were made with no special effect on the pyrexia or general condition, but it was found that the septic organisms disappeared from the sputum. The authors concluded that in order to produce an anti-tuberculous serum capable of controlling the evolution of tuberculosis in the human body, a considerable interval must elapse between the inoculation and the date of the withdrawal of the serum, for when taken a few weeks after inoculation its effects closely resembled those of Koch's first tuberculin. These experiments encouraged a further trial of the milder form of anti-tuberculous serum in early cases of lung tuberculosis, or where the lesion was limited, but where the disease was so overwhelming, as in acute pulmonary tuberculosis, or the lung surface was largely invaded by fresh tubercle, no probable advantage was likely to be derived from its use.—*Boston Medical Journal*, April 1, 1899.

49.—TREATMENT OF TUBERCULOSIS AT FALKENSTEIN.

By E. MACDOWEL COSGRAVE, M.D.Dub., F.R.C.P. I., Professor
of Biology, R.C.S.I., Physician to Cork Street
Hospital, Dublin.

[From Dr. Cosgrave's paper.]

The sanatorium is situated at a height of 1,300 ft. on the southern slope of the Taunus mountains, it faces the south-east where the ground falls some thousand feet to the valley of the Maine, and to Frankfort, and is protected on the three other sides by the higher portions of the Taunus range. The climate is cold in winter, but although there are fogs the atmosphere is singularly free from winds and dust, and there is no perceptible fall of temperature at sunset. The main building is in plan like

a wide horseshoe, and encloses a gravel terrace, along which extend covered verandahs. In these, cane sofas or deck-chairs are ranged, and on these the patients spend practically the entire day. Additional pavilions are placed in the grounds, some of these revolve so that they may be turned to avoid the wind and catch the sun. For the first few days the patients only lie out from after the second breakfast to 5 p.m., but afterwards the day's routine is as follows:—After ten minutes' rubbing by an attendant the patients assemble at early breakfast, which in summer is from 7 to 8, and in winter from 7.30 to 8.30; this consists of coffee, rolls and butter, and, in addition, hot or cold milk *ad lib.*, the watchful attendant at once replenishing empty glasses. Then the balcony is sought, and the patients lie down, placing their feet in fur bags, and wrapping rugs and shawls about them. The wraps belong to the patients, and must be provided as part of their outfit. The expertest of packers then goes round and rapidly and skilfully tucks in the patients, who then appear like symmetrical and well-cared mummies. At 10 o'clock they go in for second breakfast, which consists of rolls and butter, and hot or cold milk *ad lib.*; to those who, in the opinion of the medical attendant need it, strengthening soup is served. They again lie on the verandah until they go in for dinner at 1 p.m. This and supper are of the kind usually served in German hotels, but special attention is paid to making each course as nourishing as possible, and each meal commences with one of the thick nourishing soups that form a Falkenstein speciality. At 4 p.m. milk is brought round the verandah; this, as well as the 9 p.m. milk, is not included in the regular tariff, but is served at a cost of one penny per glass. All the milk used at the sanatorium comes from the dairy of the establishment, which is situated on a hill-side up above, and is sterilised. For those who cannot digest so much milk, koumiss is provided. The patients are encouraged to drink plenty of milk, and generally take from six to eight tumblers a day, which is a large amount for people who are taking daily four solid meals. Occasionally the amount of milk has to be limited, as lately happened to a home-sick American, who tried to expedite his cure by drinking fifteen glasses a day. Supper is at 7 p.m., and after it the patients may lie out to 9 or 9.30 p.m.; at 9 p.m. milk is served round. The patients then retire to their bedrooms, which are warmed by pipes; the windows, however, are left open during the night. When the patients arrive they are thoroughly overhauled by the entire medical staff; this is repeated monthly, a daily inspection being made by one of the resident medical men. Their temperatures are taken four times daily—at rising, noon, 4 p.m., night—if the temperature shows

fluctuation it is taken eight times daily. It is interesting to see how when the clock strikes twelve and four all the recumbent patients pull out their thermometers and place them in their mouths until they are ready to be entered on the charts. These hours are anxious ones to those with a temperature tending to run above normal, as the penalty for raised temperature is banishment to the bedroom until it again becomes normal.

The sanitation of Falkenstein is excellent, there is an abundant water supply from pure springs situated higher up the mountains, and the sewage is received in precipitation tanks. The whole place is kept scrupulously clean, and constant war is waged on dust. Although the sanatorium is surrounded by extensive woods with tempting walks, they are out of bounds for the majority of patients, who are required to rest as much as possible; indeed, even needlework is practically prohibited, and letter-writing is discouraged. It is only when patients are nearly well and about to leave that they are allowed to take walking exercise, and even then the distances allowed are short, and the limits fixed are strictly observed. It will be seen from the above that rest, air, and food are the three means of cure, and that these are administered with no stinting hand. Complete physical idleness, twelve hours in the open air, the night spent in a room with open windows, and frequent full meals of nutritious foods, with plenty of milk in between, take the place of medicines; it is wonderful how the treatment agrees with the patients, and how the long exposure to the fresh air does not cause cold, and how the frequent meals are awaited with sharp-set appetite. Of the benefit of the treatment in the majority of cases there can be no doubt, and that not only in incipient cases, but even when both lungs are affected. Falkenstein is easily reached; the Great Eastern Railway offers the best route by Harwich and the Hook of Holland, the journey can be conveniently broken at Cologne, which is reached in the middle of the day, and can be finished by another half-day's travelling, train being taken to Frankfort and on a few miles to Cronberg, where carriages meet expected guests. Whether equally good stations can be found in the British Isles is at present an urgent question, as although Falkenstein is easily reached, treatment abroad means greater separation and isolation than treatment at home. It is probable, however, that our insular climate will not give as equable winter temperature as can be met with on the European continent, and that whilst sanatoria at home may do for early cases, those that are more advanced will have to seek the Continent, so that even if English sanatoria are opened Falkenstein will still draw its quota of English cases.—*Medical Press and Circular*, March 8, 1899.

DISEASES OF THE ORGANS OF DIGESTION.

50.—ON PROFUSE HÆMATEMESIS DUE TO
“PORE-LIKE” EROSION OF THE
GASTRIC ARTERIES.

By JOHN LINDSAY STEVEN, M.D.,

Physician and Lecturer on Clinical Medicine in the Glasgow
Royal Infirmary.

[The following is taken from Dr. Steven's instructive paper. Details of the cases and other parts have had to be omitted:]

It has recently been my lot to have had under my care a number of cases of very severe hemorrhage from the stomach, so severe as in all of them at once to threaten the lives of the patients, and as two of them unfortunately came to a post-mortem examination, I have thought it right to bring before you the clinical and pathological notes in detail. The usual causes of hemorrhage into the stomach are so well known that, whenever we meet with a case, we almost invariably think of one or two well recognised lesions, such as simple perforating ulcer, malignant ulcer, or hyperæmia due to portal obstruction. To none of these categories, however, do the cases I am about to demonstrate belong. Any of the lesions I have mentioned may give rise to profuse and sudden effusion of blood into the cavity of the stomach, and it is natural that we should think of them when such cases occur, and equally so that we should be surprised when the autopsy shows that they are not present. In both of my cases, during the lives of the patients, perforating ulcer was regarded as the most likely cause of the hemorrhage, but in neither of them was an ulcer of the ordinary type present.

Case 1.—Profuse hæmatemesis due to “pore-like” erosion of a branch of the gastric artery. Arrest of the bleeding under rectal feeding and subcutaneous saline injection. Death soon after from exhaustion due to uncontrollable diarrhoea. At the necropsy the œsophagus and duodenum presented quite healthy characters; the mucous membrane of the stomach also, as a whole, was quite normal in appearance. On the posterior surface, about 4 inches above the pylorus and $1\frac{1}{2}$ inch below the lesser curvature, a very superficial abrasion, about a quarter of an inch in length and one-eighth of an inch in breadth, was discovered. There was no thickening of the floor or edges of the abrasion, and no redness around it. In the middle of the abraded area two pin-hole openings were observed, through which a bristle was directly passed into one of the

primary lateral branches of the gastric artery. This might very readily have been missed from the very healthy character of the mucous membrane surrounding it. Evidence of slight catarrh of the intestines was present, but no blood was found in them.

Case 2.—Profuse hæmatemesis due to “pore-like” erosion of a branch of the left gastro-epiploic artery. Laparotomy. Death due to hemorrhage, about 96 oz. of blood having been lost while under observation in the ward. At the necropsy there was a sutured wound in the anterior wall of the stomach, about $1\frac{1}{2}$ inch from the pylorus. The stomach was empty. About 2 inches to the left of the wound, $3\frac{1}{2}$ inches to 4 inches in from the pylorus, and $1\frac{1}{2}$ inch up from the greater curvature was a small depressed area about the size of a threepenny piece. In the centre of this area an oblique opening into a vessel (a large branch of the left gastro-epiploic artery) was seen, into which a bristle can be passed 2 inches in one direction and 1 inch in the other. There was no thickening of the stomach around the depression, and the serous coat over it was absolutely natural in appearance. The other abdominal organs presented healthy characters. The depressed area scarcely deserved the name of an ulcer. It was a mere superficial abrasion, which might altogether have been overlooked had it not been for a minute blood-clot adhering to its surface. With this exception the mucous membrane of the stomach presented quite healthy characters.

The occurrence of the two cases which I have just described, and the specimen from the first of which I have demonstrated, made a profound impression upon my mind, chiefly on account of the minuteness of the lesion capable of producing such disastrous results. That such a lesion may not be at all an uncommon one I can well believe, but that it has not been very frequently described is at once apparent from a glance into the literature of hæmatemesis. In consulting the various accounts of profuse and fatal bleeding from the stomach which were available to me, I find a certain number of cases on record in which no lesion could be found at the post-mortem examination, the mucous membrane of the stomach being regarded as healthy. Now, it is quite possible that in such cases there may have been a minute pin-hole opening of one of the arteries which had escaped notice. In certain other records, to the titles alone of which I have been able to obtain access, I judge that the lesion giving rise to the hemorrhage was of a nature precisely similar to that I have been describing in this lecture.

As regards diagnosis, the first point to be commented upon is the exceedingly profuse character of the hemorrhage, which in both of our cases from the first threatened the lives of the patients; and, in the second, may be said to have been the primary cause of death. That such exceedingly profuse hemorrhage may occur in the simple perforating ulcer cannot be doubted; but, on the whole, I think it is not so likely to occur, as the morbid condition of the tissues in the wall of the round ulcer is more likely to induce a thrombosis, which may either prevent the hemorrhage altogether, or, when it

does occur, may more readily lead to its arrest. The second point of diagnostic importance is the comparative absence of antecedent gastric symptoms. That this also may be characteristic of the development of the round ulcer cannot be doubted; but in most cases a careful inquiry will reveal the existence, usually during a considerable period of time, of some of the symptoms of round ulcer. In our second case it may be admitted that these were entirely absent; in the first, gastric symptoms had only been present for four weeks altogether, and became urgent for the first time about a week before the first hemorrhage. Further, it can hardly be said that the symptoms detailed in the clinical history were characteristically those of the round ulcer. Hemorrhage, sometimes of a very profuse kind, from the stomach may result from the presence of malignant ulcers, from hyperæmia due to portal obstruction arising from cirrhosis of the liver, or from varicose veins of the stomach. As regards the two former conditions, difficulties of diagnosis are not likely to be great; as to the latter, I have no personal experience, but I should think that the difficulties of detecting the true source of the bleeding during life would be considerable. With regard to the nature of the "pore-like" erosion of the gastric vessels which has been made the subject of this lecture, I am very much inclined to agree with Dieulafoy in thinking that the lesion is probably the initial stage of the simple round ulcer of Cruveilhier. The treatment of the condition must always be a matter of the gravest concern to the physician. Our first case shows, I think, that under medical measures the bleeding may be arrested. But possibly this may be effected only when the vital powers are so exhausted that the ultimate recovery may for long be a matter of doubt. So it happened in our case. No doubt surgical interference with the view of securing the bleeding point would be the best method of dealing with such cases, but even here the result must often be problematical. To be of service the operation must be done early, and sometimes this is not possible. But perhaps a greater difficulty is the uncertainty of finding the bleeding point when the stomach is opened. Our cases show that the lesion is not one which is liable to occur in any particular region of the viscus, and this still further increases the difficulties in the way of a successful result. However, Dieulafoy has had one successful result, and I must say that if a case similar to the second reported were to occur to me again, I would recommend an operation at the earliest possible date.—*Glasgow Medical Journal*, January, 1899.

51.—MOTOR INSUFFICIENCY OF THE STOMACH.

By Dr. FENTON B. TURCK.

[The following is taken from a report of Dr. Turck's paper, read before the Chicago Medical Society :]

In addition to the lack of nutrition and final starvation produced by motor insufficiency, this also produces serious vaso-motor disturbances of the splanchnic area :—(1) Because uninterrupted dilatation and distension of the stomachs of dogs produced collapse, and as the stagnation of the food contents gives rise to gases it is quite possible that these together with the stomach contents will produce similar results. (2) The food remnants may themselves act as irritants, especially such remnants as adhere to the stomach walls. (3) In stagnant food remnants there are unquestionably formed toxic substances through the action of the numerous bacteria that infest the stomach, and the author's experiments have indeed shown that such stagnant stomach contents are far more toxic than the normal ones. The toxins so formed make probably a powerful factor in the production of the vaso-motor disturbances that accompany motor insufficiency. In connection with the etiology of simple motor insufficiency, the author emphasises the fact that all the causes that produce it do so by over taxing the stomach muscles without allowing them sufficient periods of rest. From an etiologic point of view, motoric insufficiency may be divided into two classes :—(1) Such as are due to some mechanic obstruction, and where the motor insufficiency is secondary to the obstruction. These, whether malignant or benign, demand the earliest possible surgical interference, and on the part of the physician call for an early diagnosis. (2) Those in which the gastric myasthenia and dilatation are the primary conditions. Motor insufficiency is often produced after other general and acute diseases, because of the weakening of the stomach muscles and the tendency to disregard the proper dietetics during the convalescent stages. The author points out that the early gastric symptoms in cases of tuberculosis are not due to disturbances of secretion, because hyper- and hypo-acidity and other anomalies of secretion are not constant factors, as is the lack of motor power in the stomach, and when this motor power is restored, the nutrition of the patient is increased, and the general condition shows marked improvement. The author therefore emphasises the fact that in the treatment of tubercular patients due regard must be paid to the improvement of the gastric motility. The author has also had occasion to investigate the gastric condition

in various forms of diabetes, and has found that nearly all such patients have this lack of motor power. This is true even in cases where there are seemingly no gastric symptoms. The author would have special attention given to this in the treatment of diabetic patients. -

Diagnosis.—The author calls attention to a few aids to the diagnosis of motor insufficiency of the stomach. Leube's method, as most commonly used, is the examination of the stomach contents in the morning, after an evening meal, and if food is found, the conclusion is reached that motor insufficiency exists. Even where the pylorus is patulous and the bulk of the food passes into the intestines, remnants of food may remain adherent to the stomach walls. This condition is not revealed even by lavage, but the food detritus is readily removed by the use of the gyromele, and thus a condition of motor insufficiency, otherwise unobserved, may be detected. It is often necessary to determine the location, size and capacity of the stomach, as well as the character of the stomach walls, as displacement and prolapsus, dilatation or distension is so frequently associated with motor insufficiency. The distension of the stomach with air, Ruenberg's method, or the introduction of water, Diho's method, followed by percussion, are the methods most commonly used. To facilitate the method and overcome the many objections that often defeat the most skilled diagnostician, the author has devised a method by the use of a thin rubber bag firmly attached to a double tube. One end of the double tube reaches to the bottom of the bag, the other only to the opening. The bag fits closely around the tube and does not materially increase the size, but when fully distended has the capacity of 1,500 to 2,000 cm. The bag and double stomach tube are introduced into the stomach, and water in fractional quantities is forced into the bag within the stomach until a litre of water is introduced. The area of dulness that is found each time that one quarter litre is added is marked with a pencil upon the abdominal wall. If air is now forced into the bag, the upper portion of the stomach, the fundus and lesser curvature are similarly determined by percussing the tympanitic area. If the small tube which leads to the upper portion of the bag containing the air is now connected with a manometer, any movements of the stomach will be indicated by the rise and fall in the manometer. The water may be siphoned off and diagnosis confirmed by retracing the steps. Thus, the location, size, capacity, and motor power of the stomach may be very accurately determined. A more direct and rapid method of determining the location, size and condition of the stomach is by the use of the gyromele, which traverses the entire circumference of the stomach, the lateral as

well as the vertical extent, including the greater and lesser curvature. By palpating the revolving cable upon the abdominal wall, the gastric outline can be accurately determined. By using cables of different degrees of flexibility, the degree of distensibility of the stomach can be accurately determined. From its distensibility the motor power can be quite accurately estimated in cases where there is no pyloric obstruction, as has been repeatedly found by experiments. The pyloric obstruction is discovered in the process of sounding the stomach, pylorus, and duodenum.—*Journal of the American Medical Association, January 21, 1899.*

52.—HYDROTHERAPY IN STOMACH DISEASES.

By GEORGE D. KAHLO, M.D., Indianapolis, Ind.

[From Dr. Kahlo's paper.]

The drinking of water in the fasting state will be to cleanse the gastric mucous membrane, and at the same time to act as a stimulant to secretions and to peristalsis. Secondarily, there is heightened arterial tension, accelerated heart action, and an increased activity of the kidneys and skin. Cold water is the more stimulating to secretions and is a better laxative. Hot water has a greater influence as a diaphoretic and in increasing the biliary flow. The condition furnishing the greatest indication for the drinking of hot water is gastritis, and in properly selected cases its employment will be attended with the most beneficial influences, but it must be strictly limited to those in which the motor function is still intact. Wherever there is enfeebled motility, with retention of digestive products, the drinking of large quantities of water will only aggravate the symptoms already existing. To secure the best effects the water should be as hot as can be borne with comfort; it should be sipped very slowly, and from eight to sixteen ounces should be taken an hour before each meal and at bed-time. Almost equally beneficial results are to be obtained in some of the purely functional conditions, as in gastralgia, and in the various secretory disturbances associated with normal motor activity. In myasthenia with diminished secretions, small quantities of cold water are sometimes useful in promoting a healthy glandular and muscular activity. The effects of mineral water of slight concentration are in the main those of the ordinary potable water, and are due more to the mode of administration, the purity and quantity of the water ingested,

than to its chemic composition. In certain patients they possess distinct advantages in the fact that because of their supposed medicinal properties greater confidence is felt in their efficacy, and more attention is given to carrying out the details of the treatment prescribed. The therapeutic uses of the stronger mineral waters are chiefly those of their constituent substances. Carbonated or acidulous waters, owing to their palatability, are very popular as table waters. They are stimulating to the gastric mucous membrane, will improve the appetite and exercise quite a decided influence on the urinary excretion. They are recommended in gastric neuroses and in atony. In small quantities they will often relieve nausea and vomiting, but when taken in large amounts are apt to give rise to distension and eructations. Chlorinated waters also act to increase the secretions, and, according to Ewald, are indicated in all cases of gastric catarrh with diminished secretions, either with or without the production of mucus (Hemmeter). Sulphated or bitter waters are saline waters containing sodium or magnesium sulphate, and it is to the presence of the latter substances that they owe their chief therapeutic property, which is as a laxative. They are useful in the treatment of chronic constipation, but because of their depletory influences, should not be employed in cases presenting anæmia or marked debility. Alkaline waters are employed quite extensively in the treatment of gastric diseases. In small quantities they increase and in large quantities diminish the secretion of hydrochloric acid. They are used in hyperacidity and gastric ulcer, but an objection to their employment is that when taken in considerable quantities they are apt to impair the appetite. The various lithia waters are of this class, and, while the percentage of carbonate of lithium which they contain is undoubtedly small, they are very useful as eliminating agents. Better results are to be obtained from the natural than the artificially prepared waters. Chalybeate waters are supposed to be of benefit in cases associated with marked anæmia, but unless they can be taken at the spring their employment is not to be recommended.

Lavage, like other forms of internal hydrotherapy, while possessing many things in its favour, has certain well-defined limitations, and it is no doubt owing to its too indiscriminate use that it has lost much of its former popularity. It is indicated in exactly those conditions which furnish the chief contraindication to the administration of water as a drink, namely, in dilatation and retention. In gastrectasia, from whatever cause, it is a sovereign remedy, and in the earlier stages of this affection a few applications will sometimes effect a complete cure. Next to dilatation it is most frequently used in chronic

gastritis, and Fenwick advises its employment in the gastrointestinal catarrh of infancy, but it has a very limited application in dynamic affections. Ordinarily, plain water a little above the body temperature is used, but various medicinal solutions are occasionally substituted. The addition of a small quantity of salt is of advantage when there is diminished secretion with excessive mucus, and bicarbonate of soda solutions are employed in hyperacidity. In the majority of cases it is best to wash out the stomach in the morning before breakfast, for, besides its remedial influences, it has certain diagnostic advantages. In hyperacidity it is sometimes more effectual just before retiring. The gastric douche does not differ materially from lavage, except that instead of the tube having but one or two large openings, there are many small ones, and the solution is introduced under somewhat greater pressure, the effect being a kind of internal shower-bath. It is advised particularly when using antiseptic solutions, but a much better method under these circumstances is that devised by Einhorn in the gastric spray. In this, the solution enters the stomach, in the form of a fine spray, and besides being more widely disseminated, a minimum amount of antiseptic is employed, and there is less risk of toxic symptoms.

Externally, water may be applied locally, either directly or through the intervention of some secondary substance. The most common application is in the form of the wet compress, but to be effectual it must be maintained at a nearly uniform temperature, which necessitates frequent renewals. It is obvious, also, that whether hot or cold water is used, the more accentuated the difference between the temperature of the application and that of the body, the more marked will be the effect produced. A most excellent application is that of the abdominal coil, through which water at the desired temperature is kept constantly flowing; a modification of this is that known as the Winternitz method. Cold applications of all kinds are antiphlogistic and, when prolonged, are sedative. They are indicated in acute gastritis and in the control of vomiting and hæmatemesis, but, to obtain their full effect, it is necessary that their local action produce an active hyperæmia of the skin (Van Valzah and Nisbet). Hot applications are most useful in the treatment of gastralgia, hyperæsthesia, gastric ulcer and chronic gastritis. The Scottish douche consists in alternately spraying hot and cold water over the epigastrium, and is recommended in the treatment of neurotic conditions. The shower and plunge are employed for their constitutional effects, and in this way will often exert a most beneficial influence upon the local condition.—*Journal of the American Medical Association*, January 14, 1899.

53. —A POWDER BLOWER FOR THE STOMACH.

By MAX EINHORN, M.D.

[The illustrations are omitted here.]

Our deeper knowledge of gastric pathology and the better therapeutic results attained nowadays must be ascribed to the new special methods of diagnosis as well as of treatment of the local conditions of the stomach. Methods of direct treatment of the affected organ always merit consideration. Several years ago I devised a spray apparatus for the local application of medicaments to the mucosa of the stomach. This method has since acquired numerous followers here and abroad. By means of the spray, however, only soluble drugs can be applied, but not substances which are either soluble with great difficulty or not at all. In order to facilitate the introduction of the latter I have devised a powder blower for this purpose. The stomach powder blower consists of an ordinary, not too flexible rubber tube, twenty-eight inches and a half long, the distal end of which connects by means of a hard-rubber piece with an air-suction bulb, the proximate end of which is attached to a hard-rubber piece. The latter is hollow and pierced with several small openings at the side for the passage of air, and provided with a screw thread for the capsule. The capsule has numerous holes, and is made in three different sizes (three, three and a half, and four centimetres long). It is filled with the necessary quantity of powder, by means of a very small spoon, and screwed on to the hard rubber piece at the proximate end of the stomach tube.

Insufflation of the stomach with powder can naturally only be done when the organ is empty. It should therefore be performed in the fasting condition, and, in cases in which the stomach is not empty in the morning, after previous lavage. Proceed as follows :—According to the quantity of medicament required, one of the capsules is filled with the powder and screwed on to the apparatus. The tube is moistened with warm water, and inserted into the stomach. The bulb is then compressed three or four times in quick succession. By holding the ear over the gastric region of the patient during insufflation the entrance of air (consequently also of the powder) is distinctly heard. In cases in which there is much mucus in the pharynx and œsophagus its entrance into the holes of the capsule may be prevented by covering them with vaseline in a thin layer. The latter forms a protecting covering and prevents liquids from coming in contact with the powder. When the apparatus is in the stomach and the bulb compressed, the air opens up the vaseline layer over the holes, and the

powder can now escape. The following simple experiment shows that the powder does not collect merely at one spot, but rather spreads over the entire surface of the gastric mucosa :—Take a rubber bag (seven inches long and six inches wide), insert the end of the stomach powder blower filled with powder, and draw the strings together. Then compress the bulb two or three times and remove the insufflator from the bag. If the latter is now opened, the powder is found equally distributed upon the entire inner surface of the bag. This shows that the air disseminates the powder as fine dust over all parts of the inside of the bag. In the stomach the conditions are not different from those in the bag, and the insufflation of the interior of the gastric cavity with the powder will thus be complete. The correctness of this view can also be proved by the Röntgen rays. The stomach is insufflated with bismuth powder, and the patient exposed to the X rays. On examining the gastric region with the fluoroscope the entire stomach is visible as a shadowy figure. This can occur only if the bismuth powder covers the entire inner lining of the stomach. The indications for powdering the stomach are manifold : In ulcer ventriculi, bismuth ; in gastric hemorrhages, antipyrine ; in gastralgia, orthoform ; and in erosion, protargol can be directly insufflated. Insufflation of the stomach with bismuth powder appears also to be of great help in X-ray examinations of this organ. The points just mentioned, and others, will have to be carefully investigated in a large number of cases in order to ascertain their real value. At present my intention has been merely to describe this method of powdering the stomach. At some later period I hope to publish the results therewith obtained. —*New York Medical Journal*, April 1, 1899.

54.—THE MEDICAL TREATMENT OF APPENDICITIS.

By HERMAN B. ALLYN, M.D.,

Physician to St. Joseph's Hospital, &c.

[The following is taken from Dr. Allyn's paper. His concluding remarks must not be overlooked, as in some cases of appendicitis operative treatment is indispensable :]

The plan which I have followed with very satisfactory results for the past three years consists essentially in absolute rest in bed ; in abstinence from food for twenty-four to forty-eight hours ; in opening the bowels, preferably by a saline laxative,

and in keeping them open to the extent of one or two movements in twenty-four hours. During these three years I have had fifteen cases of appendicitis in private practice; all have recovered without operation while under my care. The plan of treatment adopted in these cases was very simple. The patient was put to bed and kept as nearly at absolute rest as the circumstances of the patient and domestic conditions permitted. All food was withheld for twenty-four to forty-eight hours, and water, or some carbonated water, or hot water, allowed very sparingly. By the mouth some laxative was given, preferably a saturated solution of Epsom salt in peppermint water. This is given in teaspoonful doses once in three hours, until one or two movements in twenty-four hours are obtained. In a few instances half an ounce or an ounce of castor oil was given for a single dose at the beginning of an attack. When the stomach was too irritable to retain the Epsom salt, calomel in divided doses was ordered until the bowels moved once or twice. Occasionally citrate of magnesia is preferable. Neither opium nor morphine hypodermically was given for the pain. In nearly every instance pain subsided when once the bowels had been freely moved and food had been abstained from. In rare instances codeine was given after the bowels had been moved; but while I am sure that its effects are less depressing and objectionable than those of morphine, I am not so sure that the patient was the better for it. Nevertheless, if an anodyne is to be given in this disease, it should be given after the bowels have been opened. Food was returned to cautiously, a tablespoonful of milk and lime-water once in two or three hours, or what is preferable, a small quantity of beef juice or one of the animal broths, being allowed.

The same methods which have been found useful in the treatment of acute intestinal toxæmia in infants are useful in the treatment of many of the cases of appendicitis. This is especially true of the period after the acute symptoms have subsided, and the patient is to be protected by a carefully regulated diet against a recurrence. Pain usually ceases to be a symptom demanding treatment when the bowels are moved once or twice a day; but until that time local measures to relieve pain are very useful. Such agents are turpentine stupes, the hot-water bag covered with a wet piece of flannel, ice, and leeches. I am well aware that the great weight of medical authority is in favour of the use of opium and against the use of salines in the treatment of appendicitis; though the opium treatment has ceased to be the almost universal practice it was a few years ago. We owe this change of view very largely to the influence of surgeons, who have objected to the use of opium in appendicitis because it masks the symptoms of the disease and may

thus deceive them. A more important objection still is that opium aggravates any toxæmia that may exist, thus increasing tympany, vomiting, and fever. The great objection to the use of laxatives in appendicitis has been the fear lest the peristalsis which they cause may occasion perforation of the inflamed appendix or exchange a local for a general peritonitis. I cannot say there is no danger of this, but I believe that the danger is exaggerated. Purgation is not necessary. If the bowels are constipated when the patient is first seen an enema should be given, and then some laxative, preferably Epsom salt, given by the mouth, until the bowels are freely moved. Thereafter only sufficient should be administered to secure one or two movements daily.

In speaking of the medical treatment of appendicitis, I do not, of course, mean to imply that the services of a surgeon are not needed. On the contrary, many cases are surgical from the very beginning. My own rule has been to call a surgeon in all doubtful cases. A case in my judgment is doubtful if within twenty-four hours after the patient is seen, or after the bowels have been sufficiently moved, there has not been a decided improvement in respect of pain, vomiting, and fever. In such a case perforation may exist.—*Therapeutic Gazette*, January 16, 1899.

55.—ULCERATIVE COLITIS.

[The following is taken from Dr. H. D. Rolleston's summary in *The Practitioner*, February, 1899:]

Idiopathic ulcerative colitis is a rare disease in ordinary hospital experience, but is common in some asylums for the insane, and sometimes is responsible for death in an enormous percentage—33 per cent. of the mortality. Dr. Gemmel ("Idiopathic Ulcerative Colitis," 1898) has given an account of the disease as seen in the county asylum, Lancaster, based on 114 fatal cases and 80 autopsies. It does not find its victims in any one class of mental disease, such as general paralysis of the insane, as has been suggested, but attacks those who are feeble and debilitated in all forms of insanity. There is no special predilection for either sex; the average age is 50 years for men, 51 years for women. Second attacks may occur. It is noteworthy that tuberculous patients seem seldom to be affected. It must be distinguished from secondary colitis due to tubercle, syphilis,

and enteric fever, and from colitis due to faecal impaction. The classification of idiopathic ulcerative colitis, suggested by Frank and Horn, into the acute sthenic, acute asthenic, and the chronic forms, is adopted. Dr. Gemmel regards the disease as being indistinguishable from dysentery both from clinical and from anatomical data, and thus controverts Dr. Hale White's conclusions, based on a smaller number of cases observed in Guy's Hospital. Anatomically, there is an acute inflammation of the mucous membrane without any special change in the lymphoid follicles which in the colon lie in the sub-mucosa; when the latter are affected the change is secondary to the more superficial changes in the mucosa. From the bacteriological investigations of Dr. Goodliffe, it is regarded as probable that the disease is specific, and due to a bacillus which closely resembles both the colon bacillus and the bacillus typhosus. Differences between them were found, and cultivations carried on for thirty generations tended to show that the organism was not the colon bacillus. Unfortunately, no inoculation experiments were performed. It is evident that the question as to the specificity of ulcerative colitis requires further study before it can be considered as settled. As to complications, pneumonia was always fatal, but it is curious that peritonitis is very rare, for several instances have occurred among the smaller number of cases seen in general hospitals. Granular kidney and atheroma are common in the insane, but they do not appear to have any bearing on the production of ulcerative colitis, for the kidneys may be healthy. The disease is not, therefore, allied to albuminuric ulceration, described some years ago by Dr. Dickinson as occasionally occurring in advanced renal disease. There does not seem to be any reason to believe that the disease is trophic in nature and analogous to bed-sores.

Quinine is the most useful drug, and may be given in an initial dose of 20 grains, followed every four hours by 10—15 grain doses, and reduced to gr. v. as the symptoms subside. Enemata, medicated or not, given by means of a long tube, such as a stomach-pump tube, answered well. Salol dissolved in turpentine, ℥j.-ij. to a pint of warm water, is an excellent local application.

Dr. Voelcker (*Trans. Path. Soc.*, vol. xlix., p. 114) records a fatal case of ulcerative colitis. Some of the affected bowel was given to a pig; the animal was subsequently killed, and presented none of the appearances resembling those found in swine fever. This experiment is of interest, as it has been tentatively suggested that ulcerative colitis is analogous to swine fever.

56.—OXYURIS VERMICULARIS IN CHILDREN.

By GEORGE F. STILL, M.A., M.D., M.R.C.P.,

Medical Registrar and Pathologist to the Hospital for Sick
Children, Great Ormond Street.

[The following is taken from Dr. Still's interesting paper :]

The point on which I wish to lay special stress is not the frequency of threadworms, which is familiar enough, but their situation. It is often stated that the threadworm inhabits chiefly the rectum and lower part of the colon and occasionally the cæcum, but the fact that the vermiform appendix is a favourite habitat of the threadworm has received but little attention. In no fewer than 25 out of the 38 cases in which the oxyuris vermicularis was present the worm was found in the appendix vermiformis ; in other words the threadworm was found in the appendix in two-thirds of the cases. Moreover, the appendix is in some cases the only part in which the threadworm is found ; in six of the 38 cases mentioned no threadworms were found either in the cæcum or elsewhere in the large intestine, but in each of these six cases threadworms were found in the appendix, and sometimes at its extreme tip. The number of threadworms in the appendix is sometimes very large : thus in one case, 111 were present here ; and it is noteworthy that these large numbers may be found in the appendix, when only very few or none are present in the large intestine.

A further point, which may be of significance, is the immature character of the worms found in the vermiform appendix. In some cases only one or two of the worms found here were full grown, the rest were extremely minute, measuring 1·5 to 3 mm. in length, and requiring the use of a lens for accurate counting. These minute worms had already acquired the characteristic differences of sex, from which it could be determined that many, probably the majority, were immature females, though some certainly were males. It has been stated by Blanchard that the embryo when first hatched measures in the case of the female 1·7 to 1·97 mm., and in the male 1·1 to 1·8 mm., whereas the full-grown female measures 9 to 12 mm., and the male 3 to 5 mm. in length. Many therefore of the minute threadworms found in the vermiform appendix must have been hatched quite recently. This observation seems to throw considerable doubt upon the view held by Leuckart and others, and now current in the text-books, that the oxyuris vermicularis never multiplies in the intestine ; it is absolutely necessary, they say, that the ova should be passed and reintroduced into the mouth, and so into the stomach, in order that they may be hatched ; in other words, every single threadworm passed

from the bowel has been introduced as an ovum from without into the alimentary tract. The presence of numerous very young threadworms in the vermiform appendix, associated with only a few full-grown ones, seems to show that at least in some cases, the vermiform appendix serves as a breeding place for the oxyuris vermicularis. It might be added that although there is experimental evidence to prove that the swallowing of the ova is followed after a few weeks by the appearance of threadworms in the fæces, the proof that every threadworm that is passed from the bowel has been introduced in this way is yet to seek. That a certain number, possibly even a large number, of threadworms are introduced as ova into the mouth from one or other source is not improbable, but the observations which are here recorded suggest, I think, that the oxyuris vermicularis also multiplies in the intestine, and that the appendix vermiformis is in some cases its breeding ground. On this view the extreme obstinacy of those cases in which, in spite of all treatment, threadworms are discharged in the fæces for months or years, becomes at once intelligible. The difficulty of dislodging threadworms from the tip of the appendix where they are not uncommonly found, is sufficiently obvious; and one can well imagine that a few female worms maturing here would keep up a continual supply of young threadworms, many of which would gradually find their way out into the cæcum, and so pass down with the fæces.

[The author then refers to cases in which changes in the vermiform appendix were caused by these parasites.]

The idea that the rectum is the chief habitat of the threadworm is erroneous and misleading; it is here that the worm, perhaps, most often causes symptoms—namely, itching and worry, but it is not here that the worm is most commonly found. It is most often present in the cæcum, and, as I have shown, in two-thirds of the cases it is present also in the vermiform appendix; moreover, in some cases it is found in the small intestine. Any injection therefore which is only large enough to reach the top of the rectum or the lower part of the colon is not likely to do much good. Some have even gone so far as to say that injections are useless, on the ground that it is not possible to reach the cæcum by this means. Such a statement is no doubt perfectly true if the injection consist of only 3 to 4 ounces of fluid. With such a quantity no part higher than the descending colon is likely to be reached. But with larger quantities—12 to 18 ounces or more—it is quite possible to fill not only the cæcum, as is apparent in the treatment of intussusception by injection, but also the vermiform appendix, if one may judge from post-mortem experiments in which I have repeatedly demonstrated this. Injections, therefore, are

of the greatest importance, but it is essential that large quantities of the fluid should be used—a child of 6 to 12 years will often tolerate as much as 16 to 20 ounces—and experience has shown that large injections of salt and water or of infusion of quassia are often effective. Treatment by injection alone, however, often fails, and this is easily intelligible, for the large intestine varies so much in length, and therefore in capacity, in children of about the same age, that it is practically impossible to know what amount of fluid is required in any given case. Thus, in one child, aged 15 months, the large intestine was 28 inches long, in another, aged 15 months, it was 34 inches, while in another, aged 23 months, it was 44½ inches long, and similar differences were found in older children. Moreover, as the above observations have shown, threadworms may be present, though not very commonly, in the small intestine; and the chance of reaching these by any injection is very slight, even when they are situated, as is usually the case, only just above the ileo-cæcal valve. It is necessary, therefore, to give drugs by the mouth also, and no drug has proved more effectual in my experience than *santonin*. At the same time the prevention of any possible conveyance of ova to the mouth must be attempted, for, as shown above, this is probably one mode of keeping up the supply of worms, and the cutting short of finger nails, and the prevention—by mechanical restraint if necessary—of scratching the anus, are no unimportant adjuncts to treatment.—*British Medical Journal*, April 15, 1899.

57.—THE NON-MEDICINAL TREATMENT OF CONSTIPATION.

By GEORGE ROE LOCKWOOD, M.D., of New York.

[The following is taken from Dr. Lockwood's paper :]

Measures strengthening the abdominal wall consist of (1) massage, (2) abdominal gymnastics, (3) electricity, and (4) abdominal supports. Except in cases where constipation was dependent upon a neurasthenia, for which latter condition, general, not local massage proved of value, massage has been disappointing. This may be contrary to the general impression, but after extended and repeated trials I have abandoned a large measure of my previous hope in its efficacy. If ordered it should be given by an experienced operator. Massage is contraindicated in all inflammatory and spastic conditions. Abdominal gymnastics are more serviceable. General exercise, especially bicycling and golf, are of great service, together with

local exercises, such as the raising of the leg slowly to the vertical position and dropping it to the bed again. Electricity has been to me a grievous disappointment. I have used faradism in a variety of ways, but I have never been convinced of its utility. The results, however, are so good in atonic conditions of the stomach, that I still continue hoping better things from it in intestinal work. Of galvanism I have not sufficient knowledge to speak. Lately, Boas has had great success in rectal faradism. One pole being inserted into the rectum, the other, flat electrode, is to be placed at various points over the colon.

Artificial abdominal supports are indicated (1) in downward displacements of the stomach or colon; (2) in weakness of the abdominal wall or separation of the recti muscles. The supporter should always be adjusted before rising in the morning and worn continuously through the day. In these cases the patient should be instructed to suspend the clothing from a corset-waist and not from the waist.

Hydrotherapy is a measure which must not be lightly passed over. The glass of cold water on rising has a well-known effect upon intestinal peristalsis, but its disadvantage is that it exerts a depressing effect upon gastric secretion. The spinal douche I can strongly recommend. While the patient sits in as hot water as can be borne, the spine is at first sponged with hot water, after which a pitcher of cold water is poured from a considerable height upon the back. Brisk friction should follow, and the hour of selection should be before breakfast. When the spinal douche cannot be given, the patient may stand before two basins, one of hot and one of cold water, and alternately sponge the abdomen with the hot and cold. Such treatment is serviceable in atonic forms of constipation, but is contraindicated in inflammatory and spastic conditions.

Sedative remedies are indicated in conditions of intestinal spasm, a more frequent class of cases than is ordinarily supposed. In this type, purgatives, massage, and bulky articles of diet are to be excluded, and a more soothing régime inaugurated. Attention should be paid to the primary cause, usually a hyper-acidity of gastric contents. An efficient remedy in these cases, about which I can speak from considerable experience, is the priessnitz umschlag or neptune girdle. Two thicknesses of flannel, large enough to cover the abdomen, are wrung out in hot water, covered by oiled silk, and applied to the abdomen at night by means of a binder. The soothing effect of a nocturnal hot bath is often of service. Small doses of sodium bromide and belladonna, preferably with chloroform-water as a vehicle, may be necessary in obstinate cases. The results of oil irrigations personally seen in Boas' clinic and in my own

practice have been so brilliant that I am inclined to attach much importance to this form of treatment. A rectal tube of large calibre, with a large lateral opening, is introduced six to eight inches into the rectum, and from six to eight ounces of a bland oil slowly allowed to enter. Cotton-seed oil free from rancid acidity, is as satisfactory as olive oil, and is inexpensive. In Boas' and in Pick's clinics, the patient assumes the knee-chest position. My modification of this is more agreeable to sensitive patients. The patient receives the injection while in the Sims' position, with the hips elevated on two pillows, and with the muscles well relaxed, remains so placed for ten minutes, then the dorsal decubitus is assumed for ten minutes, after which the patient lies for ten minutes on the right side, the hips still being elevated. By this method the oil reaches throughout the entire length of the colon. No immediate results occur, as a rule, and the patient may go about his daily work, although the injection is to be given by preference at bedtime. In the great majority of instances the patient will have one normal movement for three to five successive mornings without straining. The action of the oil seems to me to be due to the fact that the intimate commingling of the oil with the faeces prevents all further drying processes, thus markedly facilitating the outward passage of the faeces, and in presenting a greater bulk to the expulsive efforts of the rectum. Pick recommends daily inspection of the stools and a repetition of the injection whenever the oil disappears from the faeces. It is just as well, however, to rely upon clinical data, and to repeat the treatment whenever the effects of the previous injection have subsided. Ordinarily, every five days is sufficient. One great advantage of this method is that it may be used in atonic, spastic, and inflammatory conditions alike.—*Medical News*, December 10, 1898.

58. —AN OUTBREAK OF DIARRHŒA IN THE WARDS OF ST. BARTHOLOMEW'S HOSPITAL.

By F. W. ANDREWES, M.D. Oxon., F.R.C.P. Lond.,
Pathologist and Lecturer on Pathology to St. Bartholomew's Hospital.

[Dr. Andrewes refers to three outbreaks. In the first two the *B. enteritidis sporogenes* were found by Klein. The parts of the paper referring to the third epidemic are chiefly reproduced here.]

The third epidemic was on the night of Friday, August 5, 1898, and affected 86 persons, distributed over 16 of the 20

wards then open. It differed from the two preceding outbreaks in being definitely traceable to an article of diet (rice-pudding) made with milk rather than directly to the milk itself. I will shortly detail the facts supporting this statement. The epidemic began about 10 p.m. on August 5, 1898, and fresh cases occurred up to 6 or 8 a.m. on August 6. All were of a mild nature; 84 patients and two nurses were attacked. Only four wards in the hospital escaped (one block was closed for alterations), but individual wards were affected in very different measure. On investigating the diets of the persons attacked I was at once struck with the overwhelming evidence against the rice-puddings which had been consumed on the previous day. In this third outbreak, in which the rice-pudding fell under suspicion, I obtained the stools of three patients suffering from diarrhoea, taken at random from three different wards, and submitted them to microscopic and bacteriological examination.

Case 1.—A boy, aged 15 years, who was convalescent from pneumonia and pericarditis, had eaten rice-pudding in the middle of the day on August 5. During the following night he had mild colic and diarrhoea, passing three brown liquid stools. The attack was over by the next day. Cover-glass preparations of one of the stools, stained by Gram's method, showed amongst other organisms a fair number of large bacilli resembling the bacillus enteritidis sporogenes. Spores were present in a few of the bacilli. The bacillus enteritidis sporogenes was readily obtained on cultivation. *Case 2.*—The patient was a woman, aged 47 years, who was suffering from bronchitis, emphysema, and morbus cordis. She had not eaten rice-pudding on August 5, but custard-pudding prepared at the same time and from the same milk. Diarrhoea began at 4 a.m. on August 6 and three loose stools were passed, the last one containing blood and mucus. The attack passed off in a few hours. As in the preceding case bacilli resembling the bacillus enteritidis sporogenes were found microscopically in the stools. Only a few of them were sporing, but the organism was obtained readily enough on culture. *Case 3.*—The patient was a man, aged 25 years, who was convalescent from typhoid fever, and who had been previously constipated. He partook of rice-pudding at mid-day on August 5 and had diarrhoea during the succeeding night, passing four brown liquid stools. The attack ceased during the next day. The specimen of stool examined was crowded with typical bacillus enteritidis sporogenes, most of which bore oval terminal spores, and there were also large numbers of free spores. The bacillus was readily obtained on cultivation.

In all three cases the cultures of bacillus enteritidis sporogenes proved highly virulent. They were made in the usual manner—that devised by Dr. Klein. Fresh sterile milk tubes were inoculated with two or three platinum loops of the stool and then heated to 80° C. for ten minutes in order to destroy everything except the spores. They were then cooled and incubated anaerobically at 37° C. in Buchner tubes.

In 48 hours all three milk tubes showed energetic coagulation and gas-formation—a ragged clot floating in clear whey. Microscopically they appeared to be pure cultures of the *bacillus enteritidis sporogenes*. Guinea-pigs were inoculated subcutaneously in the groin with 1 c.c. of the whey from each milk tube. One died in less than 21 hours and the other two in less than 48 hours. All showed similar appearances—an intense hemorrhagic œdema and gangrene spreading over the abdomen and the thorax. The bloody fluid teemed with the bacilli, which also were found in the heart-blood and spleen in smaller numbers. I was unfortunately not able to obtain a specimen of the milk which had been supplied to the hospital on August 5 as all had been used or thrown away. (I have no doubt, however, that I should have found the *bacillus enteritidis sporogenes* in it. A week or two later on six consecutive days I tested the milk supplied and found the organism present on five days out of the six.) In one ward, however, a sample of the rice-pudding eaten on August 5 had been preserved for me. In this ward there had been several cases of diarrhœa which seemed clearly attributable to the pudding. The pudding, then 24 hours old, was sour to the smell and acid to litmus. Cover-glass films prepared from it stained by Gram's method and in other ways showed amongst other organisms a large number of large bacilli precisely resembling the *bacillus enteritidis sporogenes* in size and shape, but in none could any spores be detected. The other organisms present were cocci and small bacilli resembling the lactic acid bacillus. I did not further investigate the nature of these. It may be urged that the process of cooking would destroy any germs in the pudding derived from the milk with which it was made. To test this point I visited the hospital kitchen with a thermometer and ascertained the temperatures attained at different stages in the cooking. The mass was first "boiled" in a large copper, and I found its temperature about 70° C. in the upper layers and from 80° to 85° C. in the deeper parts. The pudding was then baked in small dishes in an oven. I tested one removed hot and bubbling from the oven and found its temperature to average from 90° to 92° C., and nowhere to exceed 98° C. Now, the spores of the *bacillus enteritidis sporogenes*, like those of Botkin's *bacillus butyricus*, are amongst the most resistant known and will stand 100° C. for a considerable period, and I therefore find no difficulty in believing that such spores, originally present in the milk, may have escaped in certain parts of some of the puddings—an assumption which might explain their variably toxic character.—*The Lancet*, January 7, 1899.

59.—SYPHILIS OF THE LIVER IN ADULTS AND IN CHILDREN.

By Professor ADAMI, Montreal.

[From report in the *Medical News*, April 1, 1899, of a paper read by Prof. Adami before the New York Academy of Medicine :]

The maternal blood is carried first to the liver ; if syphilis were acquired by the fetus we would expect to find this organ often affected. As a matter of fact Chiari of Prague in 122 out of 144 cases of congenital syphilis did find syphilitic affections of the liver in children examined carefully for this purpose. This view of the acquirement of so-called hereditary syphilis may seem heretical, but Professor Adami holds firmly to it. The most usual and earliest focal lesion in the livers of children is a collection of round cells. Comparatively early in the disease miliary gummata develop. When the liver exhibits what are usually called tertiary lesions the skin may be passing through the secondary period. Fibrosis of the liver develops relatively early. Flexner, working along the lines laid down by Adami, gives bacteria a place in sclerotic changes in the liver and they play a rôle in the early development of fibrosis in syphilitic hepatitis. The fibrosis may be the result of an attempt to wall off and protect the organ from invasion or may be due to the irritation of toxins produced during the course of the disease. Changes in the liver of children due to syphilis are much easier to classify and recognise with assurance than those of adults because the etiological problem is simpler. Other and sometimes unknown factors have not been at work, and besides the time of their development can reasonably be presumed from the age of the child. The varieties of syphilitic liver affections in children are about as follows : (1) Those due to granulomatous processes or to interstitial change. (2) Minute multiple miliary gummata or isolated large ones. (3) Fibrous changes due to the irritation of toxins. In later life the classification of syphilitic affections of the liver is not so easy. It is evident that when the secondary cutaneous lesions make their appearance lesions of the same general character are to be looked for in the viscera. These visceral changes are not, however, very noticeable or we would know more of them. Autopsies at this stage of the disease are rare, and so far only the gross morbid appearances of the internal organs have been studied, the early visceral lesions being as a rule microscopical in character and not noted. This is a line of work in which great things are to be hoped for from the present universal

attention to minute pathological histology. Fagge has reported a case of indurated liver in the adult, a cirrhotic change not unlike the condition that develops in syphilitic children. It must be borne in mind that the liver is an excretory organ, and as such especially liable to be flooded with the toxins of any diseased processes at work in the body. The presence of these toxins as they develop in a catarrhal hepatitis may give rise to jaundice, though, of course, the jaundice may be obstructive in origin due to the pressure of enlarged glands in the hilum of the liver or to syphilitic nodular involvement of liver tissue. Tertiary syphilis of the liver after gummatous inflammation gives rise to scars and fibroid puckerings of the organ which represent the lesions of an obsolete syphilis. In very old cases the obsolescence of the lesions has sometimes gone on to such a degree that reabsorption of the fibrous tissue has taken place so that only the puckerings remain as larval substitutes for the old process. Gummata may be large or may be small—miliary in size and may be found in the second year or may be met with long years after infection. The hepatic lesions in the adult may be summed up about as follows: (1) Gummata. (2) Miliary lesions gummatous in character. (3) Parenchymatous hepatitis. (4) Interstitial hepatitis causing syphilitic cirrhosis. (5) Obsolete gummata. (6) Puckerings of liver substance, the stigmata that remain after obsolete gummata, though all trace of the fibrous tissue that existed here after the formation of the scar that followed the gummata has been removed by absorption. (7) Tumour-like outgrowths of liver substance simulating very closely on palpation malignant growths, and not rarely leading to mistakes of diagnosis. Usually in these tumourous formations there is an outer layer of normal hepatic tissue surrounding gummatous deposits, the pathological material at the centre of the lesion being sometimes broken down or in certain stages of degeneration. In general in adults the tendency of syphilis is toward the production of focal lesions; in children the fibroses predominate, and the tendency is to the production of more diffuse pathological conditions. The liver is especially affected in nearly all cases because of its importance as an organ of excretion. Hence the toxic products of the disease are delayed here during the metabolic process and effect the injury of tissue noted. In the fetus the liver first receives the blood from the placenta, and so is especially liable to be affected by the disease-products from a syphilitic mother. In the liver more than anywhere else it becomes clear that it is impossible from a pathological standpoint to draw any hard and fast lines between secondary and tertiary symptoms of syphilis.

60.—THE ETIOLOGY AND MEDICAL TREATMENT OF GALL-STONES.

By Dr. WASHBURN, of Milwaukee.

In an interesting paper published in the *Clinical Review*, December, 1898, Dr. Washburn deals with the subject of gall-stones, their etiology, and treatment. Cholesterin being the chief constituent of the greater number of gall-stones, and the sole constituent of a few, this substance calls for special consideration. Those calculi, formed wholly of bile-pigment, are chiefly found in the intra-hepatic bile-canals; those formed of calcium carbonate are rarely found, except in cases of cancer of the liver. Cholesterin is a monatomic alcohol, which in the bile is held in solution by the bile-salts. A constant constituent of the bile, it is also found in serous effusions, nervous tissue, pus, blood plasma, milk, sweat, and secretions from mucous membranes generally. Investigation seems to demonstrate that the cholesterin of the bile is neither a product of general metabolism nor a specific secretion-product of the liver. The proportion of cholesterin in the bile is 0·5 to 3·5 per 1,000, in sputum from bronchitis 0·9 per 1,000, in that of putrid bronchitis as much as 1·5 per 1,000, and in pus from various sources the proportion of cholesterin is still higher. Inflammation, then, appears to determine a morbid increase of cholesterin in the various secretions of the body. Gall-stones have for their underlying factor an acute or sub-acute inflammatory process, involving the gall-bladder, and the cholesterin entering into the formation of the calculi has never been in solution in the bile at all. The most potent cause of all gall-stones is catarrhal inflammation of the biliary passages and gall-bladder. As a result of bacterial invasion of the gall-bladder, inflammation may result, with the formation of concretions. This invasion is favoured by certain conditions, especially stasis. Stagnation may be encouraged by tight lacing, pregnancy, lessened activity incidental to advanced age, physical inactivity earlier in life from necessity (sedentary occupations), or inherent laziness. Gall-stones are often met with in cases of chronic valvular disease, the patients being unable to take sufficient exercise on account of their heart trouble.

The micro-organisms that have been found in the gall-bladder in cases of biliary calculi are the *bacillus coli communis*, several varieties of pus cocci, and the *bacillus typhosus*. Some writers maintain that the invasion of the biliary passages by micro-organisms from the blood has no part in the etiology of cholelithiasis, whilst others contend that invasion takes place not only from the intestinal canal, but also from the blood.

Inasmuch as cholesterin is soluble in solutions of the bile-salts (glycocholate and taurocholate of soda), and these salts are elaborated from the metabolism of nitrogenous food, diet as an etiological factor in the causation of gall-stones claims attention. Abstention from animal foods will tend to lessen the amount of these salts in the bile, and *pari passu* its solvent power. Dr. Washburn remarks that gall-stones are common in gouty subjects, who, on account of this disease, limit their consumption of meat. Although this may be a contributory cause, it must be, we think, one of very secondary importance. The tendency in the gouty individual to inflammatory disorders of the various mucous membranes is, we are inclined to believe, the more legitimate interpretation of this proneness of the gouty to suffer from gall-stones. We are not acquainted with records establishing the relatively greater frequency of gall-stones among vegetarians, although Dr. Washburn points out that biliary calculi, unknown in wild carnivora, occur sometimes in the sheep and pig and the "stalled ox."

With regard to treatment, the author, for attacks of biliary colic, employs the usual remedies. In the inter-paroxysmal periods the treatment is naturally directed to the solution, if possible, of any existing calculi and the prevention of the formation of others. Glycocholate of soda has been given on the theoretical grounds of its solvent action in solution on cholesterin, but with discouraging results. When it was proved that the concretions passed in faecal evacuations after the administration of olive oil were formed in the intestinal canal, and due to an admixture of olive oil and inspissated mucous, the reputation of this remedy suffered a severe check. It was originally prescribed as a lubricant to the biliary passages, to facilitate the expulsion of the stone. There is not the least evidence that the oil can directly reach the gall-bladder, nor even the common bile-duct. Nevertheless, there is clinical evidence in favour of the use of this substance, says Dr. Washburn, and adds that gall-stones rapidly lose weight and disintegrate in olive oil. This result is still more rapidly effected in pure oleic acid. Unchanged fat, fatty acids, and soap normally exist in the bile, the amount of which is proportionate to the fat consumed in the diet. To the increase of oil, fatty acids, and soap in the bile, from consumption of large quantities of olive oil, may be attributed the beneficial effect sometimes following its ingestion in cases of cholelithiasis. Few cases, however, can tolerate a sufficient quantity to produce this therapeutic action. Of cholagogues, such as salol, salicylate of soda, phosphate of soda, beef-gall, the author prefers for continuous use the phosphate of soda. One patient, during its use, who had previously averaged ten to twenty attacks of biliary colic a year, did not have a single

attack in the four years he was under observation. Exercise short of fatigue is an important adjunct to medicinal treatment. Finally, the author discusses the important question of diet in biliary lithiasis. A wide diversity of opinion evidently prevails as to what constitutes a proper diet in this disease. Some prohibit meats, calf's brain, liver, and other viscera, because they contain a small quantity of cholesterin (large amounts of cholesterin can be given to animals for long periods of time without modifying the amount of cholesterin appearing in the bile). Carbo-hydrates are vetoed by others, and fats are on the lists of the "forbidden food" of many. These many, we presume, perhaps wrongly, are opponents of the olive oil treatment. Patients are warned against peas, carrots, sweet fruits, &c., also against yolks of eggs, because they contain fats. Dr. Washburn's views on the diet in this disease may be summed up in the words, *ne quid nimis*. That he has thus refrained from contributing to the chaos and confusion of the diet question in cholelithiasis is a matter for congratulation. We cannot resist the conviction that a diet carefully collaborated, with a view of excluding those articles of food prohibited by different writers, would leave the patient in the sole enjoyment of a serviette and toothpick.—*Dr. Hampson Simpson's abstract in Treatment, February 9, 1899.*

61.—PANCREATIC LITHIASIS.

By M. LANCEREAUX.

The *Journal de Médecine Interne* of February 1 contains an important lecture by M. Lancereaux on this little-known subject. Pancreatic lithiasis is one of the commonest affections of the gland, but it is much rarer than biliary lithiasis. Including one under his own care, M. Lancereaux has collected 40 cases; there was persistent diabetes in 12. The etiology has received little attention. Atheroma of arteries, hepatic and renal lithiasis, and chronic rheumatism are frequently associated with pancreatic lithiasis. Possibly the same general condition is a pre-disposing cause of all. The age at which pancreatic lithiasis is observed (from 30 to 60 years) favours this view. Sedentary life and over-feeding are pre-disposing causes, as they are of biliary lithiasis. Obstruction, by pressure of a tumour, for example, is an exciting cause of both. Calculi are found in all parts of the gland, but especially at the head. Sometimes there is only one, sometimes a number are present; 300 have been found. They are usually free in the ducts, but they may be fixed in the gland. They are spherical, ovoid, or cylindrical; rarely they are granular or arborescent. They vary in size

from that of the head of a pin to that of a hazel-nut. Lesions of the pancreas may result. The ducts become dilated. Microbes enter from the intestine and produce suppuration or gangrene; then there are rigors, fever, and septic symptoms. In other cases sclerosis of the gland and atrophy of the cells result; the pancreatic function fails and a fatal diabetes ensues. Physical signs are rarely found in pancreatic lithiasis. A case is related in which there was an epigastric tumour; this was doubtless a cyst consecutive to dilatation of the canal of Wirsung. The only other sign is the passing of calculi in the stools; the calculi are found by careful sifting and are whitish and composed almost exclusively of carbonate and phosphate of lime. Colic is less frequently produced than in the case of biliary calculi in consequence of the feeble contractility of the canal of Wirsung. The habitual seat of the pains is between the umbilicus and the epigastrium, often at the left costal margin; they radiate along the costal arches to the spine; they are acute but not so intense as those of hepatic colic; and like the latter they are accompanied by anorexia, rigors, cold sweats, nausea, and vomiting. With each crisis occur certain still more important symptoms—glycosuria, fat in the stools, and sometimes, though rarely, in the urine; there are also polyuria, polydipsia, and polyphagia. In fact, there is complete but temporary diabetes, due no doubt to inhibition of the pancreatic secretion analogous to the inhibition observed when one ureter is obstructed by a calculus. Intestinal hemorrhages have been noted in three cases and passing jaundice in three others. Colic occurs at the beginning of the lithiasis. Later, when the pancreas is profoundly altered, what M. Lancereaux calls “diabète maigre” sets in. The duration of pancreatic lithiasis is variable—days, weeks, a year, several years; the prognosis, too, is variable. If the calculus is passed into the intestine by the duct or by ulceration recovery is possible, but if the duct remains obstructed suppuration, gangrene, and death from septic infection, or sclerosis and atrophy, and death from diabetes are to be feared. The calculus has passed into the abdominal cavity with fatal hemorrhage in one case and with peritonitis, almost always fatal, in several. Pancreatic colic is to be distinguished from gastric cramp. The pain in the former radiates from the pit of the stomach and in the latter from a little above the umbilicus; it is distinguished from biliary colic by the (usual) absence of jaundice. If in a case of diabetes with wasting there is a history of pancreatic colic the origin of the diabetes in pancreatic calculus is probable. Prophylaxis, as in biliary lithiasis, consists in exercise, stimulation of the skin by cold douches, and regulation of the diet. Morphia is to be used to relieve pain.—*The Lancet*, March 11, 1899.

DISEASES OF THE URINARY ORGANS.

62.—ON THE DETECTION OF SMALL QUANTITIES OF SUGAR IN THE URINE.

By R. T. WILLIAMSON, M.D. Lond., M.R.C.P.,
Medical Registrar Manchester Royal Infirmary, and Assistant
to the Professor of Medicine, Owens College.

[The following is taken from Dr. Williamson's very instructive paper :]

In examining the suspected urine specimen,

(1) Apply Fehling's test, taking the usual precautions. If a negative result should be obtained, no other test is required, and the urine may be declared free from sugar in the clinical sense. A well-marked reduction of oxide of copper, when other indications of diabetes are present, may be taken as evidence of grape sugar. But in the cases in which the reduction is slight, as described above, and when there are no other indications of diabetes or glycosuria, the precipitate of oxide of copper may be due to a small quantity of grape sugar, or to some other substance which reduces Fehling's solution, such as lactose, pentose, uric acid in excess, glycuronic acid, alkapton, &c. Hence some confirmatory test is necessary.

(2) Apply the phenyl-hydrazin test, in the simplified form without the use of a water bath. The following method, which I have used for many years with the greatest success, is a very slight modification of one described by Hoffmann and Ultzmann :—A test-tube of ordinary size is filled for about half an inch with hydrochlorate of phenyl-hydrazin (in powder); then acetate of soda (in powder or small crystals) is added for another half-inch. The test-tube is half-filled with urine and boiled over a spirit lamp. After the urine has reached the boiling point, I have always continued to boil for about two minutes. The tube is then placed in the test stand, and twenty or thirty minutes later a little of the deposit at the bottom of the test-tube is examined microscopically. When glucose is present, the deposit will be found to contain needle-shaped crystals of a bright sulphur-yellow colour. The crystals are often arranged in tufts, sheaves, or rosettes. When no sugar is present, only brown or yellowish globules or amorphous granules are seen. When applied in this simple manner, phenyl-hydrazin is a most useful test. I have used the test, in the simplified form above described, very frequently

during the last eight years, with the most satisfactory results. It is a very sensitive test for glucose, giving a reaction when only 0.015 per cent. of sugar is present, but it is not too sensitive for clinical work. When used in the simplified manner above described, it gives no reaction with normal urine. It is of value chiefly as a negative test. When no reaction is obtained, we can state with certainty that glucose is entirely absent, and that the reduction of the Fehling's solution was not due to glucose, and no further testing for glucose is required. Most of the substances which reduce Fehling's solution give no reaction with phenyl-hydrazin. Thus no reaction is obtained with excess of uric acid or urates, with creatine, creatinine, hippuric acid, or alkapton. When numerous large needle-shaped crystals are obtained by the simplified phenyl-hydrazin test, then glucose is almost certainly present. But there is just the possibility of glycuronic acid being the cause of the crystals when they are small and scanty, and this is the weak point of the test when a positive result is obtained. With lactose I have always found that the phenyl-hydrazin test (simplified method) gave yellow crystals consisting of obules with short spines. If a positive result is obtained by the phenyl-hydrazin test, and we wish to be quite certain that the crystals are due to glucose and not glycuronic acid, then it is best to employ the fermentation test.

(3) Apply the fermentation test in the following manner :—Two ordinary test tubes of equal size are employed. The same quantity of German yeast (weighed) is placed in the bottom of each. (About one-tenth of each tube is filled with yeast.) One tube is then filled to the brim with the suspected urine, the other with normal urine (*i.e.*, urine which gives no reaction with Fehling's solution). The mouth of each test tube is closed with an indiarubber stopper, perforated with a glass tube bent twice at right angles. The two test tubes are inverted and kept side by side in a warm place, supported in a glass tumbler, or in some way. At the end of eighteen to twenty-four hours, often long before that time, fermentation will have occurred if sugar be present in the suspected urine. At the top of the test tube containing the normal urine + yeast a bubble of gas collects; this is given off from the yeast itself. In the other tube, containing the suspected urine + yeast, if grape sugar be present, a greater quantity of gas collects at the top than in tube containing the normal urine. The gas may occupy one quarter, or one half, or the whole of the tube, according to the amount of sugar present. Any excess of gas in the tube containing the suspected urine, beyond the small bubble of gas in the tube containing the normal urine, will indicate

grape sugar or other fermentable sugar with certainty. The weak point of the fermentation test is, that it will not give any reaction if the amount of sugar should be very small, less than 0.1 per cent. So that it is possible that a urine containing a trace of sugar might give a slight reduction of Fehling's solution and yet no distinct reaction with the fermentation test. In such cases the next test should be tried.

(4) When no reaction is obtained by fermentation, apply Fehling's test to the suspected urine which has been submitted to the action of yeast in the test tube for twenty-four hours. If now no reduction of Fehling's solution is produced by this urine, then we may conclude that it has contained a minute quantity of glucose, though it has failed to give any evidence of gas by fermentation. A urine which has reduced Fehling's solution, however slightly, before fermentation, but which after the action of yeast no longer reduces Fehling's solution may with certainty be stated to have contained sugar. Glycuronic acid does not ferment, and, therefore, after the action of yeast for twenty-six hours the urine still reduces Fehling's solution. It is usually stated that lactose does not ferment. No doubt this is usually the case, but I have sometimes found slight fermentation indicated by the excess of gas in the test tube when very active yeast has been added to a strong solution of lactose. In such cases, however, I have always found that only a very small proportion of the lactose has been destroyed by fermentation, the reducing power of the fluid being almost unaltered after the action of yeast.—*The Medical Chronicle*, December, 1898.

63.—ETIOLOGY OF BRIGHT'S DISEASE.

By ALBERT G. NICHOLLS, M.A., M.D.,

Demonstrator of Pathology, McGill University, &c.

[The following is taken from Dr. Nicholls' paper :]

The acute nephritis of the infections is of various types. At one time, degenerative processes in the secreting epithelium predominate, such as extreme cloudy swelling, fatty degeneration, desquamation, and imperfect nuclear staining. At another, the brunt of the toxin falls upon the glomeruli, bringing about effusion into the Bowman's capsules, congestion of the glomerular capillaries, and shedding of the capsular epithelium ; or occasionally small-celled infiltration into and about the Bowman's capsules. Or at still another, an acute interstitial infiltration of leucocytes with œdema of the boundary

layer (the "lymphomatous" nephritis of Wagner). Lastly, all three may be combined. The first form is most common, but the type seems to depend upon the nature of the infection. The tendency of scarlatina, for instance, to cause a glomerulonephritis or an acute interstitial inflammation is well known. Occasionally the primary infectious diseases are ushered in by an acute nephritis, which may predominate the clinical picture, as in the so-called "renal typhus." Generally, however, the cases occur late on in the course of a specific infection, and are to be regarded as complications due to the effort at elimination. They are probably exaggerations of the common conditions of cloudy swelling, between which and true inflammation no hard and fast line can be drawn. Again, some of these cases may be the result of a mixed infection. Further, all grades of severity exist, from a mild inflammation up to a true local suppurative condition. The infection may be in some cases an "ascending" one from the bladder, but more commonly a "descending" one from the blood-stream. Only on the latter supposition can we explain the nephritides which occur in skin affections, anginas, and intestinal disorders. It should not be forgotten that an acute attack may be grafted upon a chronic nephritis which was unsuspected, thus stimulating a primary attack. ("Acute recurring nephritis" of Wagner.)

The idiopathic cases are those which occur in previously healthy persons; often the only causes that can be assigned are chilling of the body, or excessive exercise in the cold. This form is especially apt to occur in alcoholics. That there is some relation between the skin and the kidney seems clear. When we come to consider the production of chronic nephritis the task becomes more difficult. It is usual to teach that the acute cases may become chronic, and that the cirrhotic kidney is an end-stage of the chronic parenchymatous nephritis, or is due to arterial disease, or, again, to certain poison, as alcohol, gout, and lead. (The "primäre Schrumpfnieren" of the Vienna School.) This does not, however, explain all the cases; cases of contracted kidney occur where there was no history of any acute attack, and run an insidious course. And, again, cirrhotic kidneys may occur in children, where there could be no question of arterio-sclerosis or chronic intoxications from mineral substances. Further, the cirrhotic kidney has been known to result from infective diseases, as pneumonia (diplococcus), and influenza. The etiological elements in this form then seem to be very various, and the course apparently without any fixed rule. While it is generally admitted that acute nephritis is in the immense majority of cases due to some infective agent, as yet, I believe, no one has ventured to say that chronic Bright's disease is due to the direct action of

bacteria. Holst, indeed, is inclined to support the view that microbes by their toxins are able to produce nephritis without being present in the kidney *per se*, and that the action may appear late or after the primary infection has disappeared, thus producing the chronic disease. But this view does not seem consistent with the facts. Recent investigations, almost without exception, go to show that in acute nephritis microbes are present in the kidney. In the case of pneumonic nephritis, Massalong and Klebs frequently found the diplococcus lanceolatus in the kidney. Michelle, too, in 19 cases found the pneumococcus in 18. In six cases of acute nephritis, and acute nephritis grafted upon chronic in pneumonia, I have found the diplococcus in every one.

Councilman records the following results :—Forty-two cases of acute interstitial nephritis were examined bacteriologically post-mortem. In twenty-four diphtheritic cases the kidney was sterile in six—in eleven the *B. coli* was found ; in five the streptococcus pyogenes ; in one the streptococcus aureus ; in eight the diphtheria bacillus ; in one the *B. fœtidus*. In five cases of scarlatinal nephritis—in three the streptococcus ; in two the *B. coli* ; in one the staphylococcus. In eight of mixed infection of diphtheria with scarlatina or measles—two cultures were sterile ; three the streptococcus ; three the *B. coli*. In other six cases—three the *B. coli* ; two the staphylococcus aureus ; four the streptococcus ; one the pneumococcus ; one sterile. He does not regard the presence of the colon bacillus found under such conditions as of much etiological value. He obtained the same results in the kidneys in the same diseases, in which no interstitial nephritis was present. Thus he concludes that no weight could be laid on the presence of bacteria in the kidneys as a causative factor in the acute interstitial lesions. This conclusion does not seem to me to be warranted, for it is amply proved that in these specific diseases germs are to be found in the urine where no gross lesion of the kidneys exists, at least clinically, and the production or not of nephritis depends on the correlation of several factors, outside of the mere presence of bacteria.

[The following are taken from the author's conclusions, based in large measure on an original investigation :]

(1) All forms of nephritis are due in the immense majority of cases to infective agents ; the acute, to the usual specific germs of the primary disease, and the chronic, as a general rule, to the bacillus coli, though other germs may, sometimes, be concerned.

(2) The point of invasion by the *B. coli* is the gastro-intestinal tract ; for other germs it may be various.—*Montreal Medical Journal*, March, 1899.

64.—MALARIAL NEPHRITIS.

Malarial nephritis has been found to be much more frequent than was formerly thought. As usually happens in medical matters, however, the pendulum of medical opinion swung a little too far. Albuminuria during malaria has been so commonly found when carefully looked for that the conclusion has very naturally been entertained that actual kidney lesions must be frequent. Two recent thoroughly conservative reviews of the question do not support this conclusion. One of them is Dr. Thayer's article on "Nephritis of Malarial Origin" in the November and December numbers of the *American Journal of the Medical Sciences*. It must be considered as expressing the views of the Johns Hopkins School in the matter; and of late years it is to the latter that the profession in America has learned to look for the best scientific opinions on malarial questions. The other discussion of malarial nephritis is from the Roman School, by Dr. Giacomo Rem-Picci in *Policlinico*.

Dr. Thayer notes the finding of albuminuria in malarial fevers in 46·4 per cent. of the cases treated at Johns Hopkins. Acute nephritis occurred in only 1·7 per cent. It is interesting to note how much more severe on the renal functions and apparently also on the kidneys themselves is the effect of that type of malaria which is at present receiving so much attention, the estivo-autumnal form. Of the cases infected with this form of the malarial parasite albuminuria occurred in 58·3 per cent.; acute nephritis occurred in 4·7 per cent. of the cases treated in the wards, the severer infections, and in 2·3 per cent. of all the cases seen.

Dr. Rem-Picci, at Rome, has been very careful to exclude all cases except those in which the albuminuria was observed to set in during the malarial infection. There are so many other possible sources of kidney irritation that he very properly considers that care in this matter is most necessary. He has evidently excluded all cases, too, in which only traces of albumin were observed, for he has found albuminuria in only 6 per cent. of the cases. In more than 7,000 cases of malaria in the hospitals of Santo Spirito and San Giovanni, at Rome, he has found acute nephritis in 80 patients, just about 1·1 per cent. It is very interesting to note that these figures agree almost exactly with Dr. Thayer's, for among white patients, as we note farther on, he found acute malarial nephritis in 1·1 per cent. of his cases. He does not attribute the nephritis so much to the malarial parasite itself, or any toxins secreted by it, as to the toxic influence of the unusual metabolic products that arise from altered physical conditions during the attacks and which

must be eliminated afterward. This is based upon the findings of Bacelli, who has shown that after a "chill" there is an increase in the specific gravity of the urine, and certain products of abnormal tissue-metabolism are demonstrable in it. Dr. Rem-Picci considers that in healthy individuals with normal kidneys this will not cause nephritis, though it does in the less resistive. A curious confirmation of this opinion seems to be found in Dr. Thayer's observation, that while nephritis occurred in white patients in only 1.1 per cent. of the cases of malaria, it occurred in negroes in 7.3 per cent., "figures," he adds, "which are quite in keeping with the clinical fact often noted at Johns Hopkins, viz., that the coloured race is much more susceptible to renal disease than the whites." On the whole, acute nephritis cannot, as a rule, be attributed directly to the presence of the malarial parasite, and the question of chronic nephritis is so involved with other factors that scarcely more than the suspicion of the causal relation of malaria to it can at present be entertained. At Rome medical men are perfectly outspoken in advocating the use of quinine in malaria, even in the cases complicated by nephritis. Cases are on record in which albuminuria and hæmoglobinuria have increased when quinine was for a time withheld, and later have diminished and finally disappeared with the malaria when the quinine treatment was energetically pushed.—*From a leading article in the Medical News, December 17, 1898.*

65.—NEPHRITIS COMPLICATING ACUTE OR SUBACUTE GASTRO-ENTERITIS OF INFANTS AND CHILDREN.

By HENRY KOPLIK, M.D., Attending Physician, Good Samaritan Dispensary, &c.

[The following is taken from Dr. Koplik's paper:]

Symptoms.—The symptoms of nephritis complicating gastro-enteritis, acute or subacute, can be grouped into two sets—the first being general, and in a sense inseparable from the primary disease; the second being, I think, directly traceable to the infection of the kidney. In a gastro-enteritis in which the kidney is only slightly involved, we may find nothing except a slight albuminuria. The symptoms which in the severe cases I have so constantly met with are absent. The patient in the severer forms of nephritis is constantly restless,

and this restlessness might be directly traced to the disturbance of the function of the kidney—a uræmic restlessness. The intervals of restlessness could be in most cases found to be relieved by the periods of a sort of stupor, the so-called hydroencephaloid of the older authors, which, I think, is also distinctly nephritic as well as toxic.

Constant Vomiting.—Vomiting in the milder forms of gastro-enteritis is most effectually checked by one or at most two irrigations of the stomach. This is not so in the severer forms of infection, and though some authors would be inclined to refer the continuance of vomiting to a general toxæmia, I have often insisted that in these cases the toxæmia had spent itself mostly in a disturbance of the functions of the kidney, and thus the vomiting was a manifestation of uræmia. In these cases of persistent vomiting we must beware of falling into error, lest we find too late that the vomiting is due to other conditions, such as a secondary intussusception of the gut. Another symptom which is present in marked nephritic infection is a form of œdema of the skin and subcutaneous structures. In all severe cases of gastro-enteritis there is a steady and marked emaciation, but after this has passed a certain line we find that the structures of the thighs, especially at the inner part, though wrinkled and showing marked emaciation, can be distinctly pitted on pressure.

Urine.—The signs referable to the urine in the milder cases of gastro-enteritis are very slight. In the severe cases in which I have described a distinct set of symptoms, we find a more or less complete suppression in the quantity of urine. A catheter introduced into the bladder will evacuate a few drops or perhaps a drachm of very concentrated urine. This urine, as soon as it is collected, will deposit urates of ammonium in large, palpable quantities, and examination shows reaction for albumin, casts of all kinds in abundance, also leucocytes and blood and renal epithelium. A very peculiar condition in the urine is that, though the urine is concentrated and may contain casts of all kinds, hyaline, epithelial, or blood casts, also leucocytes, the amount of albumin, as shown by the ordinary tests of heat and acid, and acetic acid and ferrocyanide of potassium, is not great, nor so great, for example, as is found in suppression in the adult.

Prognosis.—The general prognosis of the vast number of these cases is good, if the physician will not apply modes of treatment to the gastro-enteritis which will react and intensify the crippled state of the kidneys. With a treatment for the gastro-enteritis which I will try to outline, and which has been followed by me with great success, I think the cases can finally be brought to a condition *quo ante*.

Treatment.—The treatment and management of these cases is practically the management of all severe forms of gastro-enteritis. We should never lose sight of the fact that opium in any form, mercury, coal-tar products, designed to disinfect the intestinal tract, like benzol, salol, carbolic acid, guaiacol, are ruinous; they only tend to deepen the toxæmia, and by irritating the kidney intensify the functional disturbance in that organ. In all these cases the suppression of urine, the rapid emaciation, are manifestly the result of the withdrawal from the tissues and blood of a vast amount of the fluid elements. I grant that the irritation of the kidney elements is due to infectious material circulating in the blood, but in these cases also the concentration of the toxins, as I have said, and thereby the total suppression of the urine, may be favoured by their presence in concentration due to the great loss to the system of its watery elements. The full and free supply of water through all the possible channels is one of the greatest means of placing these cases on a convalescent basis. Stomach washings should be daily employed, and also rectal irrigations. In the latter I have employed Cantani's physiological solution. The irrigation is so managed that a large amount of fluid is left in the gut after the withdrawal of the tube; in other words, we make an effective enteroclysis. We do this daily. In the very severe cases I introduced daily 200 c.c. or more of sterilised physiological salt solution under the skin of the abdomen (hypodermoclysis). The medical treatment is confined in these cases to the exhibition by the stomach of bismuth in large doses. In all cases the milk is suspended, artificial or breast, and the child fed on albumin water or beef juice mixed with sterilised barley water. Inasmuch as the barley may be in cases mouldy, I have lately prohibited its use, as it seemed in some cases to aggravate symptoms. The so-called acorn cocoa has been a useful food substitute in many cases. I have also shown how the use of drugs, formerly much in vogue, must finally injure these patients. Take, for example, the simple matter of opium. I have always warned against its use in any form in these cases. The physician would defend its use on the ground that it quiets the patient. This is so, but the quiet thus produced is a stupor analogous to the stupor in cases of uræmia, in which too much morphine has been made use of. Such a case I had occasion to see lately in consultation. I warned against opium. It was used, and the babe never roused itself from the stupor which, I believe, was brought on by its use, and which, I think, was intensified on account of the vulnerable state of the kidneys. Sublimate, also, even in smallest doses, is a dangerous drug in these cases of gastro-enteritis, as also calomel in repeated doses of one-tenth grain, such a favourite with many physicians.

I wish, in closing, to speak of the beneficial effects of warm baths with massage in the bath, and the cautious use of strychnine to stimulate the heart. I do not use alcoholics in these cases.—*Medical Record*, April 1, 1899.

66.—THE GRANULAR KIDNEY.

By SAMUEL WEST, M.D., F.R.C.P., Assistant Physician,
St. Bartholomew's Hospital, &c.

[From Dr. West's lectures :]

Symptoms.—The symptoms fall into two groups, the cardio-vascular and toxæmic. Speaking generally, the symptoms occur in the order in which they are ranged, the cardio-vascular first and the toxæmic subsequently, though they may both be present together. The cardio-vascular are important, because they often cause death earlier than might otherwise occur. The toxæmic always develop if the patient live long enough. They depend upon the wasting of the kidney, become manifest when it has reached a certain degree, and progress with it *pari passu*. The cardio-vascular symptoms are more or less mechanical or accidental. The cardiac are summed up in heart failure. The vascular fall into two groups: the first is formed by hemorrhage and its results; the second by chronic degenerative affections, especially in the nervous system, the result of imperfect nutrition through the diseased vessel. Heart failure is often the first symptom to cause anxiety. These symptoms are usually gradual in onset, but may come on suddenly. The pain, though usually slight, may be severe enough to be called angina. Cardiac symptoms are, however, not constant, even where the heart is greatly hypertrophied or the valves diseased. Acute pericarditis belongs rather to the toxæmic group, and even where it does not of itself cause death it is a warning that the end is near. The vascular lesions produce three sets of symptoms:—(1) Those due to rupture and consequent hemorrhage; (2) those which result from nutritive disturbances in the parts supplied by the diseased vessels. This is especially met with in the central nervous system and in the eye; (3) besides these it is necessary to refer to aneurysm, and that not only of the small vessels but of the main trunks.

Hæmaturia.—The next most important group of cases is that in which blood is found in the urine. This form of hæmaturia has led to frequent mistakes, as, for example, to the diagnosis of calculus in the bladder, for which operation has been suggested and performed. The hemorrhage is not often

copious, but in slight amount it is common and recurrent. Hemorrhage may also occur from other parts in connection with granular kidney, stomach, lungs, uterus, &c. In the last stage of granular kidney the patient may pass into an almost hæmophilic condition in which slight, though continuous and almost uncontrollable, oozing takes place from various parts of the body, from the gums, nose, tongue, lips, vagina, or from any wound or scratch in the skin. The next group of cases to which I wish to refer is that in which, as a consequence of arterial disease, degenerative changes result in various tissues; the most delicate of these is the nervous system. To this Gull and Sutton long ago drew attention and the subject has not, since they wrote, received the attention it deserves. The toxæmic symptoms fall into two groups; in the one they are of acute onset and great severity, and usually lead rapidly to death. In the other they are of more gradual onset and of longer duration and of less apparent severity, and of a very indefinite character. They are respectively called acute and chronic uræmia; but as the groups stand in strong contrast with one another it would be well if different terms were employed to denote them. For the acute cases, uræmia in its ordinary acceptation might be retained. For the chronic group, on account of its varied and indefinite symptoms, chronic and renal toxæmia would be the better term.

It is to the chronic toxæmic form that most of the symptoms belong which bring the patient suffering with granular kidney under medical observation. They may be of such a kind as to point to almost any part of the body as the seat of disease rather than the kidney, and may thus lead to frequent errors in diagnosis. [Dr. West then refers to gastro-intestinal symptoms, to cachexia, to skin manifestations, and to uræmic symptoms.]

The objects we should have in view in treatment are:—(1) To prevent the disease getting worse if possible, and to relieve the damaged organ in every way possible. (2) To guard against the accidents specially likely to occur. These are failure of the heart and rupture of vessels. (3) To counteract or relieve symptoms as they arise. Of drugs I do not know of any more useful than nitrate of pilocarpin given in small doses two or three times a day by the mouth, or in urgent cases subcutem. There is one noteworthy fact about pilocarpin in chronic renal disease—viz., that it often does not produce the sweating which under normal circumstances and in similar doses it causes, and yet without the sweating its effect is striking. There remains, however, one line of treatment to which I wish more particularly to refer, for it has not so far been investigated as fully as it deserves—viz., the treatment of chronic renal disease by means of renal extracts. I have already said that there is no positive

evidence at present of the existence of an internal secretion in the kidney ; yet the cachexia which develops in chronic renal disease is not at all unlike that which is met with in Addison's disease, or even myxœdema. Granular kidney also presents other resemblances with these diseases in that the grave symptoms do not arise until the organ is very considerably diseased. There can be no doubt clinically that the late symptoms of granular kidney do depend upon the disappearance of the glands, and it is, therefore, not at all improbable that the kidney has an internal secretion, though absolute proof is not yet forthcoming. I have had two or three cases of the same kind, and in all the result has been the same, viz., an increase in the amount of urine and an improvement in the general condition. This improvement followed and appeared to be due to the action of the remedy. The use of renal substance extracts is still in a purely experimental stage. Judging by the analogy of myxœdema, it would be in the cases of chronic renal cachexia only that we should look for striking results, and this requires early and correct diagnosis. In acute uræmia there is so little time to act that recourse must be had to other and more active measures.—*The Medical Press and Circular*, March 15, 1899.

67.—THE TREATMENT OF URÆMIA BY VENOUS SECTION.

By JAMES C. WILSON, M.D.,
Professor of Medicine, Jefferson Medical College.

[From Dr. Wilson's paper.]

The following case, a young man suffering from chronic interstitial nephritis, was admitted to the hospital October 3, 1898. The patient gave the history that about two months previously he had a number of convulsions, but recovered sufficiently to go back to his work as a machinist. It should be clearly set forth that he has no history of epilepsy ; the arteries are thick and the arterial tension is very marked. The urine is yellow in colour, slightly acid, with a specific gravity of 1010, and contains many casts. This is probably a case of chronic interstitial nephritis, with an acute exacerbation of parenchymatous nephritis. We talk and read of this definite division of Bright's disease, but the majority of cases undoubtedly overlap ; the forms of inflammation and the histological changes are mixed ; so that we generally get a mixture of symptoms which sometimes may be confusing. When it comes to a

matter of treatment I always like to picture the condition as one in which the patient has been poisoned and for whom relief must come. In these conditions the kidneys have generally failed and the toxic materials are held in solution in the blood. Then it is necessary to fall back on the other excretory organs, the intestines and the skin. The use of hot-air baths for copious sweating and the use of calomel for active catharsis are indicated. In addition nerve sedatives are frequently indicated to lower the nervous irritability of the system; for this purpose I prefer chloral, although under exceptional circumstances morphine may be used. But there is a class of patients (such as a woman in her first pregnancy who is threatened with puerperal convulsions, or who is sinking into deepening coma, or in whom the next convulsion may be the last) in whom the indication is to bleed. In this patient, if the condition had not improved under the treatment adopted, I would next have ordered a fillet to be thrown around the arm and have the patient bled—ten, twelve, or even sixteen ounces. In the past hundred years the art of bleeding had its ups and downs, until to-day it is largely discarded; but I have stood at the bedside of a great many patients during the past twenty years, and have seen numbers of them come back apparently from the grave under the use of judicious bleeding. In cases of poisons circulating in the blood, a man suffocating with illuminating gas or carbon dioxide, congestion of the lungs with acute ventricular distension, in uræmia which will not respond to other treatment, the use of the lancet has turned the scale. It is no great drain or shock to the system; the blood-making organs produce new blood quickly and easily. Even turning an ex-sanguined patient so that his head is down and his feet are up will serve to revive him to a marked degree.

Buchard has demonstrated that there are probably six or eight toxic principles in the blood under these circumstances which are having different effects on the various nerve centres. It is not the accumulation of water nor urea which does the damage. It is well at the present time not to speak too definitely of the toxic principles until further investigations have determined their character more decisively. The rationale of blood-letting is almost self-evident; volume for volume it has been determined that there is forty times as much of the toxic material drawn off in the blood as by diuresis—that is, one pint of blood removes as much poison as forty pints of urine. When we consider how impossible it would be to get this quantity of urine, we are able to see the value of the venous section. In addition, when we remember that there is usually an acute process added to the chronic condition, we can

judge of the urgency of the condition. No one can, for example, examine the kidney of post-scarlatinous nephritis, and see how it fairly drips blood, without seeing what a local congestion exists in these cases. I believe that too little attention is being paid to these conditions by the profession ; there is a strongly marked tendency to consider these cases as hopeless. As I have said, I have seen too marvellous results obtained by blood-letting to discard it. In the course of a few hours the whole clinical picture may be changed by the judicious use of this discredited therapeutic agent.—*Medical Age, December 27, 1898.*

Surgery.

GENERAL SURGERY AND THERAPEUTICS.

68.—NITROUS OXIDE ANÆSTHESIA.

By Dr. S. ORMOND GOLDAN.

[The following is taken from a report of Dr. Goldan's paper, read before the Medical Society of New York :]

After some general remarks on anæsthesia, the author said that if anæsthetics were properly administered to suitable persons there would rarely be any mishaps. The essentials for a proper narcosis were :—(1) an anæsthetist who did not look too lightly on the responsibilities of his task ; (2) one who possessed a thorough knowledge of the action of the anæsthetic agent on the human economy, and who was quick to recognise the danger symptoms ; and (3) a thoroughly equipped armamentarium capable of coping with any emergency that might arise. Whenever possible, a complete history of the patient should be obtained. Such a record would prove of great value if the same person required to be anæsthetised a second time. Upon a thorough examination of the heart, lungs, and arteries would depend, in large measure, the choice of the anæsthetic. The mere presence of a trace of albumin in the urine, without renal casts or other symptoms, was not a sufficient reason for selecting chloroform in preference to ether. In his opinion, a calomel purge, followed by a saline, was preferable to other remedies of this class prior to the administration of an anæsthetic, and should be given from two to four days before the operation. Preliminary stimulation, when called for, could be satisfactorily secured by the administration of strychnine or of tincture of nux vomica for days beforehand, or by the use of saline enemata. It was also well to encourage the patient to drink freely of water for some days. Only concentrated broths should be permitted on the day of the operation, and no food whatever within five hours of the time for giving the anæsthetic. He was decidedly opposed to the use of morphine just before anæsthetisation. Morphine, he said, did not in any way reduce the quantity of the anæsthetic employed, as many seemed to think, but, on the contrary, prolonged the time required for the induction of

anæsthesia ; moreover, accidents to the respiration had occasionally occurred which could be properly attributed to this use of morphine. A very great objection to morphine was its action on the pupil, which prevented the anæsthetist from gaining the necessary information regarding the state of the narcosis. When morphine had been given prior to the anæsthetic, it would be found that the subsequent nausea would often be aggravated, but when morphine was given after stopping the anæsthetic, the narcosis of morphine would be superimposed upon the anæsthesia, or rather would be substituted for it, and would act well.

Dr. Goldan said that those who wished to become proficient anæsthetists should begin with nitrous oxide, for, while a safe anæsthetic, it was absolutely necessary for the administrator to give his whole time and attention to the anæsthetic. Nitrous oxide was a useful anæsthetic in any operation where complete and prolonged muscular relaxation was not necessary. On account of the free venous oozing, it was not satisfactory where delicate dissections were required. In very large and obese patients, in conditions causing a stress on the right side of the heart, or in persons in whom increased vascular tension was unsafe, nitrous oxide gas was contraindicated. It was not always necessary fully to anæsthetise the patient with nitrous oxide before changing to ether. The purest gas was obtained from the steel or iron cylinders in which it had been liquefied. Experiments had shown that it was perfectly stable, and that it was fit for use even after having been kept for eighteen years. Cylinders containing from twenty-five to one hundred gallons were quite portable. The introduction of air along with the nitrous oxide should be most carefully guarded against, as it prolonged the induction of anæsthesia. It was well at first to let the patient breathe the air through the apparatus for a few seconds, not only to inspire greater confidence, but to make sure, by the click of the valves, that they were working properly. After the first few inspirations the patient usually experienced pleasant or dreamy sensations, then a tingling throughout the body ; then the respirations were increased, the pulse became full, rapid, and often irregular, and muscular spasms of the face, abdomen, and thorax would occur, associated with stertorous breathing and deep cyanosis of the mucous membranes. If properly given, the anæsthesia with nitrous oxide would be complete in one or two minutes, and the anæsthesia would then continue for from thirty to ninety seconds. Consciousness would return almost immediately on removing the inhaler, although all of the effects of the gas would not immediately pass off. The period of anæsthesia could be indefinitely prolonged by admitting the air until the

cyanosis had passed off, and then resuming the administration of the gas, as before, and repeating this process again and again. The symptoms of danger were principally those connected with respiration, and they might call for the performance of artificial respiration or even of venesection. After-effects were rare ; occasionally there were vertigo, nausea, and headache. Vomiting was extremely rare. Glycosuria was a rare sequela ; he had seen it in three cases, but in these it had been quite transient.

Many attempts had been made to eliminate the asphyxia phenomena of nitrous oxide anæsthesia. It had been found by Hewitt that 12 per cent. of oxygen and an additional pressure of two atmospheres gave an ideal result, but the method was not adapted to ordinary practice. In most cases a mixture of 10 or 12 per cent. of oxygen with the nitrous oxide would give very good results. Dr. W. W. Van Arsdale, of New York, had experimented with different mixtures, and had arrived at practically the same conclusions as had Hewitt. At one time, Dr. Goldan said, his own practice had been to use two cylinders, one of nitrous oxide and one of oxygen. In some of his cases the anæsthesia had been continued as long as forty minutes without any cyanosis. He had finally abandoned his rather crude outfit for the improved apparatus of Hewitt, which gave excellent results, but required great skill in its use. The great secret of success in the administration of this mixture was to give just sufficient oxygen to prevent the asphyxia phenomena, and little enough not to interfere with the anæsthesia. This principle was simple enough, but its practical application was difficult. It was more important thoroughly to exclude ordinary air when using this mixture than when employing nitrous-oxide gas alone. The induction of anæsthesia with this mixture occupied from three to five minutes.—*Medical Record*, March 11, 1899.

69.—FRACTURES—IN THE NEW LIGHT.

By EDMUND OWEN, F.R.C.S.,
Surgeon to St. Mary's Hospital.

[The following is included here as it is a matter of much practical importance :]

Inconvenient illuminations of badly set fractures and of other cases in which, to put it mildly, Nature has not been enabled to triumph over osseous lesions are becoming, I should think, of almost daily occurrence, and the sooner every surgeon realises

this the better for his future peace of mind. We may make a mistake about the diagnosis of a soft swelling or a stricture and it may not greatly matter, as the question will probably right itself in due course, but if we come to grief over a broken or displaced bone or epiphysis, it may be too late to remedy the mistake when the discovery is made. Possibly it is some lay friend of the patient, or it may be some other medical man, who takes the case to the radiographer, but the exact condition is at last manifested and our mistake is nailed upon the barn-door. There are several ways in which the practitioner may seek security in the treatment of fractures and of injured joints and epiphyses. In the first place, he must examine every case of suspected or of possible fracture with very great care, getting a *confrère* to administer an anæsthetic, if necessary, in order that he may make his inspection absolutely complete. If he is in doubt about any injury; if he is not sure as to the line of treatment that had best be adopted; if he wishes to relieve himself of some of the inevitable responsibility, he should certainly get some *confrère* to see the case with him. If still there is doubt, he should propose that the help of a radiographer be sought. This is surely better than that the possibly dissatisfied patient should resort to him later, and perhaps surreptitiously. Nothing must be overlooked for the new light to make manifest later.

Very recently it happened that a young woman was sent to me at St. Mary's Hospital for advice as to an injured elbow. She said that some weeks ago she had fallen on her arm; that her elbow became at once greatly swollen; that she had gone to a medical man for advice, but that he had failed to detect any definite injury. She had subsequently, however, and apparently on her own account, procured a radiogram, which she produced for my inspection. She talked glibly about the "olecranon" and the "skiagram"; but she said that she bore the doctor no ill-will for his omission, because the elbow was so greatly swollen at the time. She fortunately had not realised the fact that the olecranon and the upper part of the ulna are quite subcutaneous, and that they can be at all times easily examined—even when an elbow is swollen. Although a medical man may, in the management of a fracture, take every necessary precaution, and may treat the case with a "fair, reasonable, and competent degree of skill," the result may not satisfy his patient, and thus he is liable to the annoyance and expense of a civil action; and who can tell but that, as the result of such an action, he may be cast in damages? My advice, therefore, is that every practitioner should insure against such contingencies to the best of his ability in the ways that I have suggested, and that he further protects himself by becoming

a member of the Medical Defence Union, of which he can learn more by applying at 4, Trafalgar Square, W.C.

A few months ago I had under my care in hospital a working man who had been treated at a cottage hospital for fracture just below the middle of the tibia and fibula; the bones were not in very good apposition, and there was, as a result, non-union. When the man came to me he was armed with radiograms which he had had taken on his own account. I cut down on the seat of fracture, trimmed the ends of the bones, and secured a satisfactory result by wiring. Shortly afterwards I was told that an action was being brought against the practitioner who had original charge of the case, and that the evidence of my house-surgeon would probably be needed by the prosecution. The unhappy doctor came to me in a state of great anxiety—for even if one should not lose an action for malpraxis, it is extremely unpleasant to have such a thing brought against one. I assured him that he need have no anxiety as to the nature of any evidence that my excellent house-surgeon might give, and I advised him to go at once to the Medical Defence Union, of which, he told me, he was a member. This society forthwith undertook to protect him and his interests; they interviewed me as to the defence which should be offered. They came down like a sledge-hammer upon the threatening and offensive claimant, and the whole business promptly collapsed. Lastly, in connection with the mistakes, failures, or imperfect results turned out by brother practitioners, it is our duty to be extremely charitable, and never to pass a hasty adverse judgment upon their handiwork; for it is just possible that when the case was first seen it was surrounded with difficulties of which at that time we can know nothing, and that the care and skill bestowed on it were worthy of a better issue. To judge merely by a result may be equally unfair and uncharitable.—*The Practitioner*, May, 1899.

70.—THE TREATMENT OF DISLOCATION OF THE SHOULDER.

By J. E. PLATT, M.S., M.D., F.R.C.S.

[The following is taken from Dr. Platt's paper on Dislocations. It is based on 73 cases of shoulder dislocations:]

Manipulation.—The method adopted in my cases was that which is usually known as Kocher's method. The manipulation consists of three movements:—(1) Rotation outwards and abduction of the arm; (2) drawing the elbow forwards,

inwards, and upwards; and (3) placing the forearm across the chest with the hand on the opposite shoulder. The head may be felt to slip into place in any one of these three movements. In nine of my cases reduction was effected during the first movement and in three during the second movement, whilst in the remaining cases no note was taken upon this point. I have no mention in the records of these cases of the head having returned to its proper position during the third movement, but I have seen other cases where this has happened. In carrying out the manipulations I think that it is of the greatest importance that the first and second movements should be performed slowly and gradually, so as to overcome muscular resistance. Rapid movements, and especially rough movements, by exciting muscular contraction, tend to defeat their own object. Manipulation was the first method of reduction tried in the great majority of my cases. It succeeded at once in thirty-one cases; in three others it succeeded after the failure of other methods of reduction, whilst in six cases the dislocation was reduced by this method whilst the patient was under the influence of an anæsthetic. I am of opinion that in all cases of dislocated shoulders no other method of reduction should be attempted until manipulation has been given a fair trial. In cases of frequently recurring dislocation reduction can usually be effected with the greatest ease by this means.

Extension of the Arm Upwards.—Extension upwards as a means of reducing dislocated shoulders was first advocated by Charles White, of Manchester, in 1764, and ever since that time has been in great favour. I have found it very convenient and most effective. It can usually be carried out without the aid of an assistant, and in many cases it has proved successful after other methods have failed. Reduction by extension upwards was attempted in twenty-six of my cases, and was attended with success in twenty-one. I have not met with any untoward results from its use, although it is possible that further laceration of the capsular muscles may be produced. In old-standing dislocations, however, upward extension should be used with great caution, since it increases the risk of rupture of the axillary vessels. In recent cases I do not think that with this method the risks of injury to the surrounding parts are any greater than in either the method of lateral extension, where the exertion of a very considerable amount of force is often necessary, or in the method of downward extension with the heel in the axilla. The amount of force necessary, when upward extension is used, is usually not great, and in recent cases the whole process, as a rule, can be completed in a few seconds.

Extension Outwards, with the arm at a right angle with the body, was carried out in thirteen cases, all of which had

previously been subjected to unsuccessful attempts at reduction by other means. In ten cases it acted successfully, and in three it proved unsuccessful. A considerable degree of force has been necessary in some cases, one assistant making extension upon the arm and another making counter-extension by means of a roller-towel around the body, whilst an attempt has been made to lift the head of the humerus into the glenoid cavity by pressure in the axilla. Occasionally the bone can be levered into its proper position by placing the knee in the axilla and by depressing the arm, thus making the knee act as a fulcrum.

Extension Downwards with the Heel in the Axilla is a method of reduction which is very highly spoken of by some writers. I have had very little experience of it, having, in every recent case which has yet come under my notice, been able to effect reduction by means of one of the three methods already mentioned, with or without the use of an anæsthetic. Extension with the heel in the axilla was tried in only one case and did not prove successful.

The Administration of an Anæsthetic for the reduction of the displacement was necessary in thirteen of my cases. Nine were recent dislocations; four were of some days' or weeks' standing. There is a very general impression in the profession that the administration of an anæsthetic in these cases is attended with special risks. The danger is a very real one, I believe, if the manipulations be commenced before the patient is fully under the influence of the anæsthetic, since, under such circumstances, reflex impulses are transmitted through the cords of the brachial plexus and may seriously depress the heart's action. Whenever I have had occasion to reduce a dislocated shoulder under the influence of an anæsthetic, I have always deferred the manipulations until the muscles were thoroughly relaxed. Reduction has then been effected with the greatest ease, and there has never been the slightest appearance of danger.

Treatment after Reduction.—After reduction of the displacement the arm should be fixed to the side by means of bandages, and it is also advisable to place a small pad of wool in the axilla in order to prevent contact of the apposed skin-surfaces. As a rule it is unnecessary to use strapping to fix the arm. In my own cases I have usually kept the arm at rest for a period of ten to twelve days, and have then allowed the patient to use a sling. Passive movement of the shoulder-joint was adopted in six cases, but only after the bandages had been discarded.

Sequelæ.—Hamilton, in speaking of the prognosis of these cases, remarks:—"To whatever cause we may find occasion to attribute the result, it will nevertheless be observed that, in the great majority of cases, the limb is not restored to all its original strength and freedom of motion until after the lapse of some

mouths ; and the shoulder does not resume its perfect form and symmetry until a much later period ; occasional pains, especially after exercise of the muscles, and in certain conditions of the weather, are present also at irregular intervals, and for indefinite periods of time. Opposite and more favourable terminations must be regarded as exceptions to the rule." He quotes several examples of partial ankylosis, lasting for some months or years after the injury. Paralysis or wasting of the muscles is sometimes met with, the deltoid being especially liable to suffer, either as a result of direct injury at the time of the accident or as a secondary result of injury to the circumflex nerve. Hamilton also calls attention to the fact that, after reduction, the head of the humerus often remains slightly advanced in its socket for some months or even years. This may be due to rupture of the posterior scapular muscles, or to extensive laceration of the capsule, or possibly in some cases to injury to the biceps tendon.—*Medical Chronicle*, March, 1899.

71.—OSTITIS TYPHOSA.

By CHARLES GREENE CUMSTON, M.D., Boston,
Assistant Professor of Surgical Pathology, Tufts College
Medical School.

[From Dr. Cumston's paper.]

The tibia is the bone most frequently attacked, but the ribs, femur, humerus, ulna, skull, clavicle, sternum, fibula, radius, scapula, pelvis and vertebræ may also be the seat of typhoid osteitis. In many instances several bones may be attacked. The bone lesions usually appear eight or ten weeks after recovery from the fever has taken place, but in some cases osteitis has developed during the first, second or third week of typhoid. The final result of osteitis following typhoid is usually abscess formation, or it may be that a necrosis will occur. Young people are usually affected ; old persons seem to escape this complication. From statistics, it would appear that males are more frequently attacked than females. Every case of typhoid fever, no matter how mild it may be, may give rise to an osteitis. The affection will usually develop in the epiphysis of the long bones, and as I have already said, the tibia is the bone most frequently attacked. The bones of the upper extremities and those of the skull are not so frequently the seat of this complication, but the ribs are most probably next in frequency after the tibia the site of predilection for this pathologic process. The bone lesions develop during the height of the

fever, or, what is more frequent, during convalescence from the affection, or even at a later date, and several months have been known to pass before otitis appeared. The process generally develops suddenly without any previous symptoms which would call the patient's attention to any trouble in the bone. Occasionally the first thing that attracts attention is a feeling of fatigue in the affected limb, but the first real striking symptom is a deep-seated spontaneous pain in the affected bone. This pain is at first diffused, but later becomes localised to the spot where the lesion is developing. After a few hours or more a sharply-defined tumefaction appears, the skin covering it remaining quite normal in colour. This tumefaction will be found on palpation to be closely adherent to the underlying bone, and is very hard to the touch. Occasionally, especially in the more acute cases, one or several bones are suddenly the seat of pain, and this is very rapidly followed by visible changes in the parts. When the lesion is deeply seated in the bone tumefaction is naturally absent, but the patient complains of a feeling of weight in the diseased bone. Pain may take on a very high degree of acuteness, and is often more accentuated at night, so that it becomes unbearable. After a few days the pain and feeling of tension decrease and soon disappear.

Ostitis typhosa will end in one of the three following ways, namely: (1) by absorption of the tumour; (2) the tumour becomes indolent and very tense, and may exist as such for several months and then finally disappear; (3) by the formation of pus or a necrosis. Abscess formation or necrosis is by far the most frequent. The majority of cases in which the bone lesion appears during or after convalescence take this course. Even the slowly developing, indolent tumefactions may occasionally end in abscess formation, the latter taking on a very chronic evolution. A spontaneous recovery very rarely takes place, and in most instances surgical measures are required. If the process goes on to necrosis we will then find lesions similar in every respect to those met with in acute osteomyelitis. Irregular cavities are found in the bone which are lined with granulation tissue, sequestræ, fistulæ and thickened periosteum; in other words, the same pathologic changes in no way distinguishable from those produced by a pyogenic inflammation from any other infectious cause. There is one symptom of typhoid bone infections that must be mentioned, and that is fever. Marked fever has only been mentioned by Fürbringer and Ebermaier, and Parsons remarks that "there is, as a rule, an entire absence of fever." This may apply to the cases under his own observation, but a rise in the mercury is to be expected at some period of the affection, usually at the time when pain is

present. The fever takes a hectic type, and its height is in direct proportion to the extent of the lesions. When the pain subsides the temperature gradually drops to the normal. A very sudden and high fever accompanied by chills is usually the sign of an acute osteomyelitis and bacteriological examination will reveal the presence of the staphylococcus aureus or the streptococcus, but never Eberth's bacillus. Those cases having a very chronic evolution are usually apyretic, and are symptomatically very similar to tubercular abscess, and are usually due to a pure typhoid bacillus infection. The diagnosis is difficult, and can often only be made with certainty by a bacteriological examination. The prognosis of ostitis typhosa is good, and as yet no fatal end directly due to this affection has been reported, so far as I know. As to treatment, we may try cold applications, leeches, and rest in bed during the acute stage, but when abscess forms, or if there is a necrosis of the bone, a free incision must be made, and all diseased tissue removed by the curette, hammer, and chisel.—*Boston Medical and Surgical Journal*, March 16, 1899.

72.—GONORRHOËAL ARTHRITIS.

By A. BRADLEY GAITHER, M.D.,
of Baltimore, Md.

[The following is from Dr. Gaither's paper:]

Cases of gonorrhœal arthritis have been classified into serous, serofibrinous, seropurulent, and purulent synovitis, the names applied expressing the character of the contents of the joints. The serous and serofibrinous are the milder and more frequent forms of the disease. They generally end in complete resolution, with a gradual return of unrestricted motion. Every recurring attack seems to take a more severe form, and a third or fourth infection will almost certainly result in permanent disability. Purulent synovitis fortunately is rare. It often results in the complete destruction of the joint affected, sometimes necessitating resection or amputation. The knee-joint is most frequently involved in gonorrhœal arthritis, furnishing about one-half of the cases. Next in order follow the ankle, shoulder, and hand. Fournier collected reports of 120 cases. The number of joints affected was 212. The knee was affected in 83 cases (more than two-thirds), the ankle in 32 (about one-fourth), and the fingers and toes in 25 (about one-fifth). The disease is present in 2 per cent. of all cases of specific urethritis in males, but is rarely found in females. A man of such large

experience as Foucart says that he never saw a case in a woman. Instances have been reported in which gonorrhœal arthritis developed within a few days after gonorrhœa was contracted, but, as a rule, it appears between the third and fifth weeks. It may, however, develop after months, as a result of chronic posterior urethritis, and the patient cannot be considered as having escaped this complication until it is positively known that the urethra no longer contains gonococci. Acute gonorrhœal arthritis, whether monarticular or polyarticular, begins with a feeling of dull pain in one or more joints, followed quickly by redness and swelling, as the inflammation increases. Pressure over the tendons and insertions of the ligaments give pain before effusion has taken place. There is a rise in temperature, possibly as high as 104° F., but generally there is a marked contrast between the amount of swelling or pain and the temperature. Effusion occurs rapidly, the tension produced aggravating the pain. Extension of the inflammation along the muscle-sheaths prevents motion, and causes pain to be felt above and below the joint. In a few days the temperature drops to nearly normal, rising again if a new articulation becomes involved. Although the tension in the joint may become so great as to make suppuration seem inevitable, as a rule it does not take place, and the disease shows a tendency to become chronic, with occasional acute exacerbations. The endocardium and pericardium are not involved as frequently as in articular rheumatism. The urethral discharge is not diminished or suppressed by the appearance of the arthritic complication. In chronic gonorrhœal arthritis or hydrarthrosis, the invasion may be so slow and the constitutional affection so slight that the first symptom which attracts the patient's attention may be the swelling and restricted motion of the joint. The knee, ankle, and elbow are usually affected. Absorption, as a rule, is very slow, and deformity may result from adhesions due to inflammatory changes, or the exudate may develop organised fibrine, with resulting ankylosis of the articulating surfaces. The diseases with which gonorrhœal arthritis is most likely to be confused are articular rheumatism and tuberculosis of the joints. The persistence of pain in one articulation, the chronicity of the effusion, and the lack of conformity between the local lesion and the constitutional symptoms are the main differences from articular rheumatism. The diagnosis from tubercular inflammation is facilitated by the bacteriological examination of the contents of the joints, and of any existing urethral or vaginal discharge. In cases in which the result of such examination is negative, the differentiation is very difficult to make, especially in married women, with possibility of venereal

disease contracted from the husband, and without a tuberculous history.

The treatment of gonorrhœal arthritis has been most unsatisfactory, and will continue so until a means has been discovered for discouraging the development of the gonococcus, when once it has entered the circulation, or has been deposited in locations which cannot be reached by topical applications. White recommends quinine in doses of 5 to 10 grains, three times a day, and biniodide of mercury $\frac{1}{4}$ of a grain until improvement sets in. Mercury, in various forms, pushed to its constitutional limit, has been advocated by many authorities, and in some cases can be used to advantage. Copaiba, in large doses, and salol are also, at times, of great value. If the swelling and pain are great, the application of leeches may give temporary relief. The use of the Paquelin cautery, applied daily, is of benefit, especially in the subacute stage. Hot applications of a lead and opium solution may be used to alleviate pain, and the joint should be wrapped in cotton, bandaged lightly. If the case has become subacute or chronic, with delayed resolution and impairment of motion, massage, and particularly forcible, gradual flexion of the joints hastens the return of voluntary motion. Too much stress cannot be laid upon this point. By breaking up any adhesions before they have had time to become thoroughly organised, not only is the function of the joint restored sooner, but also possible permanent impairment of motion is prevented. Force, however, should only be used in flexion. If adhesions keep the joint in a position of flexion, the tendons should be severed before forcible extension is attempted. Surgery is being more frequently resorted to, and the aseptic opening of the joint, in severe cases, followed by irrigations with an antiseptic solution, is a rational and often most satisfactory procedure. If the arthritis is due to specific urethritis, the urethra should receive especial attention, and the patient should be warned, on his recovery, of the great danger of permanent disability should he again acquire gonorrhœa.—*Medical News*, January 21, 1899.

73.—SYPHILITIC LESIONS OF JOINTS.

By Dr. STEWART LEROY McCURDY.

[The following is taken from Dr. McCurdy's paper on Venereal Arthropathies :]

Syphilitic lesions of bones, either hereditary or acquired, make up a greater portion of all joint and bone diseases. So-called tubercular diseases of children are frequently manifestations of inherited syphilis. This statement is verified by the rapid

progress made towards recovery in cases under anti-syphilitic treatment, and the marked destruction of bone and other tissues when mechanical treatment alone is depended upon. Cases of every symptom of hip and Pott's disease have disappeared without deformity in a few months under vigorous medical treatment, along with mechanical measures. Syphilitic epiphysitis of adults, occurring during or subsequent to an initial lesion, has been considered by Fournier under the following heads:— (1) Arthralgia, or articular pains, without appreciable changes; (2) subacute arthritis resembling somewhat a mild form of rheumatism; (3) hydrarthrosis.

Hutchinson, of London, makes the following division of the affections:—(1) Synovitis during the secondary stage, which usually occurs within a few months of infection, is of but short duration, is very amenable to mercurial treatment, and clears off, leaving no trace behind. It is rare and of far less importance than the other forms, which all occur during the tertiary stage. (2) Perisynovial gummata. (3) Arthritis due to osseous nodes or gummata in the neighbourhood of the joint. (4) True chronic synovitis. (5) Syphilitic chondro-arthritis (Virchow).

In the second stage or form, effusions into the bursæ or tendon sheaths are occasionally met with. Perisynovial gummata are more common in women than men, the tissue around the knee being particularly liable to be affected. It is a frequent and very chronic form. The third form is really comparatively rare, in spite of the fact that some authors incline to place all forms of syphilitic joint disease under this head. These osseous nodes have one diagnostic symptom—viz., severe nocturnal pains. The fourth form is the common form of syphilitic arthritis. To the above (5) forms the author adds two others, as occurring in hereditary syphilis; (6) syphilitic epiphysitis, and (7) chronic effusion into joints, usually the knee, and almost always associated with interstitial keratitis. Rasch states that the particular form of syphilitic disease known under the name of specific chondritis or chronic hypertrophic syphilitic arthritism, is characterised partly by a circumscribed ulceration and fibrillar breaking up of the cartilage, with the formation of villous outgrowths, partly by the presence of radiating, depressed cicatrices placed in the cartilage, and partly by a diffused thickening of the synovial membrane and a marked poliferation. Duguet presented a case of periostitis of the temporal bone, accompanied by myositis of the temporal and masseter muscles, apparently of syphilitic origin. Fournier, commenting on this case, states that he has observed only four or five similar ones. Feulard presented a patient who suffered for two years from an enormous gummatus tumour of the left thigh. This enlargement was mistaken for one of malignant nature, and an

amputation was proposed. It was later suspected that it might be syphilitic. Constitutional treatment was instituted, and was followed by speedy cure. Among those who have written on this subject are Cheminade, Rubenstein, and Trinkler. Rubenstein publishes statistics of forty-three cases treated in Schuller's clinic—one from secondary syphilis, twenty-six tertiary, and sixteen hereditary—in children from 3 to 16 years of age. In eighteen months Schuller saw 328 cases of joint inflammation, of which $6\frac{1}{2}$ per cent. were syphilitic in origin. The capsule in syphilitic inflammation of joints often becomes hardened in spots, and lacks the uniform, doughy feel of tuberculosis. He also emphasises the nocturnal pains in syphilis. According to Lannelongue, the diagnosis from tubercular disease is to be made by observation of the facts that there is no involvement of the joint itself, and that the swelling affects the bone in its immediate vicinity; that there is an absence of muscular contractures limiting the movements of the joint; that the enlargement of the bone is diffused and general, and that there are present other evidences of syphilis.

Gummatous ostitis, or syphilitic diseases of joints and bones, is characterised by the formation of gumma in the epiphysis or synovial membrane and the periarticular structures or shaft of bone. It must be differentiated from tubercular disease. There is an absence of hyperæmia; the tumefaction of the joint is spongy or elastic. Fatty degeneration of tissues occur with an involvement of all structures about the joint. Purulent synovitis is developed in a portion of cases. The destruction may be so extensive as to destroy the epiphysis and cause it to separate.—*Archives of Surgery, December, 1898.*

74.—HARE-LIP AND CLEFT PALATE.

By R. W. MURRAY, F.R.C.S.,
Surgeon, Liverpool Infirmary for Children.

[From Mr. R. W. Murray's paper:]

For hare-lip I have operated 122 times. The deformity in the great majority of cases involved the left side of the lip, and was associated with a cleft palate. The age at which the operation was performed depended, of course, upon various circumstances, but I selected about the fourth week. I have frequently operated during the first week of life, but these early operations are not entirely free from risk. The method of operating I usually adopt is very similar to that suggested by Mr. Edmund Owen. The infant being under chloroform,

I freely divide the lip on either side from the maxilla and alveoli, and feel sure the success of the operation largely depends upon the freedom with which this is done. I then refresh the edges of the cleft. It is well not to interfere with the pre-maxilla, by bending the bone back or otherwise, for it is quite remarkable how the closure of the lip influences the subsequent growth of the bone. I have noticed in a large number of cases where the gap in the alveolar margin has been considerable, that a few months after the closure of the soft parts over it the gap has practically disappeared, the alveolar margins being almost in contact. As regards sutures, I have never used hare-lip pins, preferring silk-worm gut and horse hair. The advantage of this particular method of operating is that it ensures a continuous line of mucous membrane for the upper lip, and the subsequent scar does not suggest a hare-lip to anything like the same extent as if the scar was vertical. But, after all, the chief difficulty in these operations is not with the lip, but with the nose. Before operation, when the cleft is complete, the ala of the nostril on the affected side is markedly flattened, and I have often noticed in my own practice and in the practice of other surgeons that, although the result of the operation has been satisfactory in respect to the lip, the result has been marred by a falling away of the nostril on the affected side. To obviate this I have for the last few years approximated the ala of the nostril on the affected side of the nasal septum by means of a button suture. This suture also tends to steady the whole lip, and so save the strain on the sutures when the child cries. This button suture should be removed on the third or fourth day, otherwise the nostril on that side is apt to remain too compressed. In cases of double hare-lip, when the inter-maxillary bone is prominent, I almost invariably remove it, and a week or so afterwards proceed with the closure of the lip. If the bone is retained it acts as a wedge, preventing the closure of the anterior part of the palate; besides, in many cases the presence of this bone, even after being pushed back, would, considering the small amount of material we have for the formation of an upper lip, render the operation upon the lip extremely difficult. The main objection to the removal of this bone is that the upper lip becomes shortened, and the lower lip consequently projects, producing an under-hung appearance. But this flattening of the upper lip can, to a very large extent, be obviated if the bone is removed subperiosteally.

In cases in which the clefts are complete, extending into both nostrils, I endeavour to economise what tissue we have for the formation of the lip in the following way:—I first close one side and so utilise the middle piece to the utmost, thus converting the double into a single hare-lip, and two weeks later

operate upon the other side. By thus operating in two stages we obviate as much as possible the shortening of the upper lip.

Now, let us consider briefly the closure of the cleft palate. In all surgical text-books, and in most of the works dealing especially with this subject, the age stated at which the palate should be operated upon is somewhere between the third and sixth year. This, I am convinced, is a mistake, for after all the chief object in closing a cleft palate is to render the powers of speech more perfect than they otherwise would be. If operation is delayed until the third year or later, the child by that time has learned to talk, and, necessarily, to talk badly—a habit which, when it is once acquired, is very difficult to overcome completely. The point I wish to especially emphasise is this: the palate should be closed before the child has learned to talk at all. This being the case, the sooner the cleft is closed the better, and I have on several occasions operated upon children during the first few months of life, but have come to the conclusion that, as a rule, it is not advisable to operate so early. When performed at this early age the operation is difficult, owing to the small space one has to work in; the tissues are extremely friable, and require to be handled with the greatest care; besides which the halves of the uvula are then so small that, after paring their edges, there is hardly sufficient tissue left with which to form a uvula. During the last four years I have delayed operating until the child is about 12 months old, and the children now talk quite naturally, it being impossible to detect from their speech that they ever had cleft palates. In these particular cases the cleft of the palate was not associated with a hare-lip. When the deformity includes both the lip and the palate I operate upon the lip about the fourth week, close the soft palate at the end of the first year, and subsequently close the hard palate. In this class of cases the result of operation, as regards the power of articulation, is necessarily not so satisfactory as when the palate only is cleft; but in favourable cases the defect in speech is not very noticeable.—*Pediatrics, December 1, 1898.*

75.—THE TREATMENT OF ENLARGED GLANDS IN THE NECK.

By W. McADAM ECCLES, M.S. Lond., F.R.C.S. Eng.,
Assistant Surgeon, West London Hospital.

[From Mr Eccles' paper:]

The general treatment consists in the measures which should be adopted in every case of early tuberculosis. Of these there

are two which stand out prominently, food and air. Good food, plenty of it, often taken and happily varied, will do more to enable the patient to overcome the ravages of the bacilli than any amount of medicine. I firmly believe that we tend to dose our patients with all the nauseating drugs in vogue, cod-liver oil, creosote, petroleum emulsions, and the like, with the unhappy result that we make them turn not only against the drugs, but also against their very life-preserving food. If a patient has an acquired liking for cod-liver oil, by all means let him have it as a food, but I venture to think that the majority will be vastly more pleased with an equivalent quantity of fresh, pure butter or cream. Is not the dyspepsia of some of these patients actually induced by this injudicious treatment? It is astonishing how the habit of taking more food will grow upon a patient who has perhaps developed a contrary disposition to nearly starve himself. Fresh air, all day long and at night, is another sheet-anchor. No keeping in closed rooms, no shutting of the windows at night, must be countenanced. These patients require every breath of fresh, pure air that they can inspire. If possible, sea or mountain air should be obtained, and they must be taught not to fear to live in it, always, at the same time, avoiding chills by careful attention to clothing. A few rays of direct sunshine will do more to kill the bacteria than any amount of fireside flicker. While all will allow that this is the mode of treatment to be adopted in the case of pulmonary tuberculosis, yet some are apt to think that it is hardly necessary in the case of cervical gland disease, but I may assure you that it is indeed so. It is only by such means that we can hope for that resolution which is all too rare.

The local treatment is quite as important as the general treatment. For many a long year counter-irritation has held the field as the only method of local treatment to be used before softening of the gland took place, and, I fear, even in some instances after such a change had occurred. I confess, to my mind, the painting on of iodine not only is without the prospect of doing any real permanent good, but it is likely to create a false impression of benefit, which will, perhaps, allow much valuable time to be lost and the opportunity of radical treatment at the most propitious period to slip past. But little chance of resolution in a gland once infected will occur unless all sources of irritation or further infection are removed. Whereas tonsillotomy and the curetting of vegetations was urged as a prophylactic necessity, so the same are not only consistent with, but essential for the proper treatment of the deposit in the gland tissue. And in connection with this fact of irritation it is highly important that all carious teeth should be dealt with, either by cleansing and filling or by extraction.

Likewise also, especially amongst the poor, an examination of the scalp must be made, so that all irritation from the presence of pediculi may be entirely removed, for unless this is seen to recovery is very uncertain. All inflamed parts need rest, both mechanical and physiological, and the affected glands in the neck are no exception to this rule. During the hours of wakefulness, to obtain complete rest without discomfort or encroachment upon necessary actions is almost impossible, but during sleep this can be more efficiently secured. The child, when recumbent, should have the head and neck surrounded by the horse-shoe of a sand-bag, which will considerably assist to restrain the movements of the parts. To put it briefly, the major part of the local treatment consists in removal of all irritation and the keeping of the affected parts at rest as far as is practicable; but it must be clearly understood that this method of treatment should not supersede operative measures, if the case is one that is unlikely to benefit from palliative treatment. Passing now to the local treatment by operation, there can be no doubt that an operation for the removal of enlarged glands in the cervical region may be one that is most simple or one of the most difficult in surgery. A single gland lying above the cervical fascia shells out most readily; a chain of deeply-situated glands may exercise the utmost skill of the dissector. Perhaps nowhere in the body is an intimate knowledge of anatomy more needful than when one is dealing with glandular swellings in the neck. The vessels and nerves of the region are numerous and important, and their anatomical relations are by no means infrequently considerably disturbed.

Practically the operative measures that have to be undertaken may be divided into two classes—excision, or incision and scraping. Excision is the ideal operation, and is to be employed when the glands are either non-caseating, or if they have caseated have not become secondarily infected with pyogenic organisms. Incision with scraping is what has to be done when a caseous gland has become adherent to the skin, and is tending to discharge its contents through it, or in those cases in which a perforation of the integument has already occurred. I am convinced in my own mind that if tuberculous glands in the neck cannot be submitted to treatment by the methods indicated under the heading of general treatment, and this at an early stage in their existence, the best and most satisfactory method of dealing with them is by excision. By this means all diseased structures are removed and suppuration with unsightly scarring prevented. It is, however, difficult to say in any given case with certainty whether the enlarged glands are the seat of tubercle or not; but I would go so far as to say that any glands which, when all sources of irritation have been done away with, remain

stationary or increase in size, in spite of local and general palliative treatment, should be excised. In preparing a patient for operation for removal of glands from the neck, asepsis is of extreme importance, for any suppuration will inevitably lead to a very disfiguring scar.—*St. Bartholomew's Hospital Journal*, May, 1899.

76.—TREATMENT OF ULCERS OF THE LEG.

By J. HOWE ADAMS, M.D., Overbrook, Pa.

[The following is taken from Dr. Howe Adams' paper:]

The classical treatment followed in Philadelphia has been that of Agnew, which is as follows:—First, he ordered the parts to be thoroughly cleansed. For this purpose the patient was directed on his return from work in the evening to place his leg in a bucket of warm bran-water—that is, water in which a small bag of wheat bran has been immersed for a short time—and allow it to soak for an hour; then wipe it clean and dry, and envelop the parts in a towel wet in warm water or a lotion of boric acid, and cover with oiled silk. The same course should be pursued for two or three consecutive evenings. The surgeon then doubles a piece of patent lint on itself large enough to extend three inches beyond the surface of the ulcer. This is soaked in warm water containing a little alcohol and placed over the part and covered with oiled silk; then a roller bandage is applied with great care to the leg and foot. This dressing should be reapplied every four or five days until the granulations begin to crop out. Then Agnew applied an adhesive plaster dressing preliminary to the dressing; for this purpose he encircled the limb with adhesive strips two inches wide, commencing one inch below the ulcer and terminating two or three inches above. The plasters began two or three inches away from the ulcer and terminated the same distance on the other side, crossing the ulcer regularly and overlapping the preceding roller one-third. Then a roller bandage was applied. In this way firm and continuous support was given to the vessels of the leg. The adhesive strips were left on for a week, while the roller bandage was to be removed every two days and the secretion which came through wiped off. Of course, if the ulcer became painful and the discharges profuse, they were removed sooner. The application of a little zinc ointment around the edge of the sore generally prevented the spread of any eczema by defending the skin. This plan in the hands of careful surgeons has been fairly successful. It is used largely by the old pupils of

Agnew, who number several thousand. There are a variety of other treatments for these sores.

Being unable to put patients to bed or to change their occupations, we have adopted the following plan with almost invariable success :—The patient is ordered no preliminary bathing for his leg. His leg and ulcer is cleansed at once with a bichloride solution of the strength of one to a thousand, and then the ulcer is douched with a spray of peroxide of hydrogen. The sore is then covered with strips of Lister's green protective in the following manner :—Beginning at the bottom of the ulcer the first strip is placed on, being about a half-inch wide and long enough to cover the ulcer horizontally. The succeeding strips are placed one above the other, overlapping each other ; this arrangement of the strips is important, for in this way all irritating discharges are carried out on the protective and drained away. If the strips begin at the top, the secretion will be drained back on the surface of the sore. Over this dressing—which should not be made of the cheaper thick protective, which is worse than useless—is placed an antiseptic dressing, or the so-called “antiseptic poultice,” which is simply a thick layer of antiseptic gauze wet with a solution of bichloride. This should not be covered with any oiled muslin or silk, for this only serves to convert the dressing into a hot poultice. Now comes the distinctive part of the treatment, which consists in the application of a tightly fitting figure-of-eight bandage to the leg and foot. By using this bandage instead of the ascending spica we get a firm, even pressure, which will be easy to keep up. The figure-of-eight of the leg stays on much better than anything else. This dressing should be renewed every other day until the sore disappears, which generally occurs in the course of four to six weeks. By this plan of treatment the ulcer is protected against its own irritating discharges, the wall of congestion and inflammation is broken down, the venous circulation is supported, and the flow of fresh nourishing blood to the part is constantly maintained. In this way are all the indications met, and success usually follows. But treatment should not stop as soon as the ulcer is healed, for in that case it will speedily return when the leg is left to its own resources. Many authorities recommend at this juncture the use of an india-rubber stocking ; but these stockings are expensive, they are heating, and they rapidly lose their elasticity in spots, so that they hold tight in one place and sag in another. There has been recently devised a rubber bandage which is cheap, easily applied by the patient, and is durable ; it is known to the drug trade as the Randolph bandage, and worn by the patient has proved the most satisfactory yet produced. There

are cases which seem to do better on other treatment. Of course, when the case is intractable to any treatment, the question of excision of the veins comes up. Dr. La Place in a recent article has given his results with this treatment, and they are excellent; but we have been so successful with the treatment outlined above that we have had no occasion to use such a radical plan, and this is in a dispensary where ten to twenty-five cases are constantly on hand.—*The Medical Age*, March 10, 1899.

77.—CANCER.

[The April number of *The Practitioner* is a special cancer number. The following is taken from a very comprehensive editorial summary of the papers contained in it:]

This question as to whether cancer is a parasitic disease is answered decidedly in the affirmative by Mr. Plimmer in the very important article on "The Etiology and Histology of Cancer." This is not the place to express an opinion as to the validity of his conclusions; he must be judged by his peers. But his work and his beautiful plates speak for themselves. During the past six years he has examined microscopically 1,278 cancers, taken as they came from various parts of the body. In 1,130 out of the total number of cases he has found parasitic protozoa, which he looks upon as the cause of the disease. But he has carried his research much farther than this. From a rapidly growing cancer of the breast in which the parasites were present in exceptional abundance, he succeeded in isolating an organism which he was able to cultivate outside the body. By inoculating these cultures in certain animals, tumours—mostly of endothelial origin—were produced, and death ensued. The next step in the experiment is to get pure cultures from these tumours, which, when inoculated in other animals, will produce similar growths. Mr. Plimmer has obtained the cultures, and has inoculated animals with them. Sufficient time has not yet elapsed to enable him to make a positive statement as to the results, but one gathers that he is hopeful that the experiment will be successful. We cannot as yet be sure that Mr. Plimmer has settled the question of the etiology of cancer; he himself does not claim to have done so, and he admits that there may be more than one cause, and that different causes may be operative in different cases. If cancer is caused by a parasite, it must be regarded as communicable by inoculation. At present the parasitic theory must be looked upon as not proven, and, for the moment at least, the weight of scientific opinion is rather against it.

Whether Mr. Plimmer's results will turn the scale remains to be seen.

A circumstance which strongly suggests the existence of an infective quality in cancer is the way in which it appears to haunt particular houses. This fact was noted in a rural district of France by Arnaudet some years ago. Similar observations were made in Germany, especially by Behla, who speaks of the disease as being endemic in a certain place. In this country some striking facts of the same kind have been published by Law Webb of Ironbridge and Lloyd Jones of Cambridge. In Mr. D'Arcy Power's paper on "The Local Distribution of Cancer and Cancer Houses" will be found the results of a personal inquiry, which certainly raise a strong presumption in favour of cancer being an infective disease, in the transmission of which locality plays a prominent part. Mr. Power, it should be noted, does not believe that cancer haunts houses, nor does he think the disease is water-borne. But he does believe that it haunts places, and he expresses with no uncertain sound the opinion that the germ of the disease is a *contagium vivum*, which lives in some intermediate host belonging to the vegetable or animal kingdom, from which or in which it somehow finds its way to a suitable place in the body of the human victim. According to this view, cancer is propagated in a manner analogous to that in which malaria, as Manson and Ross have shown, is transmitted.

The analogy between cancer and malaria is made closer by the fact that both have a definite relation to a marshy soil. Many years ago, Mr. Alfred Haviland showed by an elaborate series of investigations that districts having the highest death-rates from cancer were traversed by, or in close propinquity to, fully formed rivers which seasonally overflowed their banks and flooded considerable areas; and that, geologically, these districts were characterised by alluvium and subsoils of clays of every variety of age and formation. On the other hand, districts in which the cancer mortality was low were characterised by the oldest palæozoic rocks, especially those of the Carboniferous Limestone period. In his paper on "The Medical Geography of Cancer," his researches regarding certain areas selected as representative of the whole country are brought up to date, and it will be seen that the conclusions at which he arrived 30 years ago are confirmed by his later investigations. His "cancer-fields" are still found along the course of rivers that seasonally flood their riparian districts.

It used to be believed that animals are not liable to cancer, and Dr. McFadyean, in his paper on "The Occurrence of Cancer in the Lower Animals," says that not long ago a distinguished pathologist asserted that the disease is peculiar to

the human species. How erroneous this belief is may be gathered from Dr. McFadyean's paper, in which particulars are given respecting 63 cases of cancer in domesticated animals which he has had an opportunity of examining. It is somewhat curious that the only one of the domesticated species not represented in his table is the pig. Dr. McFadyean's investigations also suggest some interesting points of contrast between animal and human cancer.

Alarming statistics have been published from time to time in recent years apparently showing a rapidly increasing prevalence of cancer, not only in this country, but everywhere. In his paper, entitled "A further Inquiry into the Frequency and Nature of Cancer," Professor Roswell Park, of New York, states that the death-rate from cancer is still increasing, not alone in New York, but apparently in all parts of the world. He adds that it is the only disease tabulated which shows a steadily progressive increment by years, and even month by month. It would appear that we are doomed before long to live under the Sign of Cancer. He makes the startling prophecy that if for the next ten years the present relative death-rates are maintained, in 1909 there will be more deaths in the State of New York from cancer than from consumption, small-pox, and typhoid fever combined.

One explanation of the increase of cancer is that it is the necessary penalty of sanitary progress. More people now live to an age at which they are liable to become the prey of cancer than in the brave old days when there were no drains and the fear of the microbe was unknown. Dr. Newsholme, however, who has given special attention to the question, rejects this plausible explanation. In his paper on "The Statistics of Cancer," he brings forward a solid mass of facts and figures which certainly seem to show that the supposed increase of cancer in recent years is more apparent than real. He attributes the fact that a greater number of deaths are now registered as due to cancer to improved diagnosis and more careful certification. This is comforting as far as it goes. But the fact remains, as Dr. Newsholme points out, that cancer is among the most deadly diseases in the Registrar-General's list. It claims nearly four times as many victims as typhoid fever, and has a larger annual death-roll than either measles or whooping-cough, although it has a much more limited field for its baleful activity than either of these diseases. It causes about 6 per cent. of the total deaths registered among males, and more than 7 per cent. of those among females, at ages over 45. And there can be little doubt that the registered mortality represents only a part of the havoc wrought by this most justly dreaded of all diseases.

Can cancer be cured? A few years ago this question could only have been answered with a despairing negative. But now, as may be learnt from Mr. Watson Cheyne's paper, a far more satisfactory answer can be given. Surgery can eradicate cancer in certain situations, whilst in a large number of cases it can give the patient a longer lease of fairly comfortable life.

Even in cases which are "past all surgery," Dr. Coley, of New York, still holds out a hope of relief from the use of the mixed toxins of erysipelas and bacillus prodigiosus, as described in his paper on "The Treatment of Operative Cancer." Although in the hands of other surgeons the treatment has not been so effective as in those of Dr. Coley himself, in a disease so desperate as cancer a doubtful remedy is better than none, and we are not justified in neglecting any chance however slight it may appear.

78.—THE DANGERS OF DELAY.

By A. W. MAYO ROBSON, F.R.C.S.,

Senior Surgeon to the General Infirmary at Leeds ;
Professor of Surgery in the Yorkshire College of the Victoria
University.

[From an address to the Nottingham Medico-Chirurgical Society:]

Let us first consider that large group of diseases that has been so much engaging the attention of the public recently. I refer to tuberculous affections, which are almost as common from a surgical as a medical point of view. Perhaps there is no more fertile cause of serious joint disease ending in deformity or death than the delay which frequently occurs before absolute rest is advocated in the early stages of spinal or hip disease. A child complains of a little pain on walking or on great exertion; the pain, being irregular at first and by no means constant, is put down to so-called "growing pain" or rheumatism, and no more is thought about it by the friends until a limp is noticed, and even then a night's rest will relieve it, and even if it should be mentioned to the doctor the best is made of the matter. And as there are probably no very obvious signs the poor victim is allowed to continue walking until the limp becomes so obvious that a careful physical examination is demanded, when stiffness of the joint, or even abscess is discovered, and the case has entered on its more serious stages.

From a large experience I am very firmly convinced that if complete rest were insisted on in the early stages of these tuberculous joint cases, whether spine, hip, knee, elbow, or other joint, a complete and permanent recovery would occur in a very large number, probably in 95 per cent. of the cases. In nearly every case there is a history of injury or strain, may be months before, which is almost forgotten until recalled by the questions of the surgeon; this is followed by a little local injury near to or at an epiphysis, which under rest would entirely clear up, and which may lie dormant for a longer or shorter time until some other cause, such as deteriorated health, imperfect feeding, exposure to infection, further injury, or some unknown cause leads to rarefying osteitis with pain on movement. In this stage complete rest would obviate further trouble in the greater number of cases, but in the absence of proper treatment the inflamed area becomes the seat of tubercle, with its well-known sequelæ of abscess and destruction of bones and joints. Even in this stage much more can be done by the simple treatment of iodoform injection, if combined with judicious general treatment, including rest and fresh air, than is generally appreciated. I can point to a considerable number of cases of advanced caries of spine with abscess treated in this way and now quite well, and of tuberculous joints, which years ago I should have excised, but which have completely recovered without any mutilation.

While I am a great advocate of the avoidance of delay in treatment, I would urge—even at the risk of being thought heterodox—the avoidance of excision, so long as there is any hope without it, in this class of joint disease, particularly in the lower extremities; for, at the best, excision inflicts a terrible mutilation, and the subsequent shortening owing to damaged epiphyses frequently means the saving of a practically useless member. So much am I impressed with the success of the iodoform treatment, even in advanced tuberculous abscesses and joint disease, that while the number of cases of tuberculous disease under treatment has not lessened, the number of excisions has markedly diminished in my own practice and in that of some of my colleagues in the Leeds Infirmary. In private practice this treatment is specially successful, as the after-care and open-air treatment can be more efficiently carried out, but in hospital practice we are let down by the absence of suitable sanatoria for the after-treatment, and I would take this opportunity of pleading for the provision of such for the fresh-air treatment of surgical as well as medical tuberculoses.

There has of late been so much written on the subject of cancer of the breast that I will not take up much of your time in discussing it, though it is so very important both on account

of its terrible effects and its frequency, as well as because of the distinctly beneficial effects of thorough surgery if adopted without delay. I think it is a good rule to advocate the removal of every tumour of the breast at an early stage, which I feel sure is at present not the general rule, though advocated by many surgeons. Over and over again I have removed a scirrhus of the breast from a patient who has had a simple adenoma for years, the removal of which at an early stage would have been the simplest matter in the world. You never know when the epithelium in a simple adenoma may overstep the basement membrane and become a carcinoma; therefore delay in advocating surgical treatment is, to my mind, extremely unwise, especially as the simple operation is devoid of risk. I operated on a case recently in which a small tumour was pointed out to a medical man, who pooh-poohed it, thinking it simple, and the patient, only too pleased to put off the evil day, sought no further advice for nine months, when I had to do a most extensive operation in order to thoroughly remove the disease. Now, in this case my medical friend with whom I saw the case thought to save his patient anxiety, but forgot all about looking at the little lump to see if it was increasing, until after that important interval his patient pointed out to him what was then obviously a scirrhus. I could furnish many similar examples were they necessary.

Nothing is becoming more clearly established than that the early and complete removal of cancer is curative and not simply palliative, and this is shown equally well in cancer of the cervix uteri and cancer of the rectum. How often do we operating surgeons have sent to us cases of carcinoma uteri too late for operation, and cancer of the rectum too advanced for anything but colotomy, yet if we had only seen these cases early the patients might possibly have been cured; for instance, I can at this moment point to a number of patients in good health from whom years ago I removed an epithelioma of the cervix, either by supra-vaginal amputation or by vaginal hysterectomy, and in the same way I can point to cancer of the rectum treated by proctectomy and well years later. But it is quite useless to hope for a cure by operation or even prolonged relief when the uterus is fixed and the broad ligaments and glands are involved in the disease. Sometimes the patients have themselves to blame for the delay, but very frequently, I fear, the medical adviser must take some of the responsibility; for, alas! too often time is lost in waiting for a positive diagnosis. Inter-menstrual hemorrhage, or hemorrhage after the menopause, should always demand careful and immediate attention, and an ulcer bleeding on touch should not be too long watched, but should be examined microscopically, and, in case of doubt,

freely removed, for it must be borne in mind that cancer is inevitably fatal, but that supra-vaginal amputation of the cervix is practically devoid of risk, and that even vaginal hysterectomy has only a mortality of 5 per cent., or even less. Perhaps in no class of cases is delay in surgery attended with so much danger as in abdominal diseases, several of which from this point of view I will consider. [Remarks are then made upon tuberculous peritonitis, appendicitis, cholelithiasis, perforating gastric and typhoid ulcers, &c.].—*British Medical Journal*, April 22, 1899.

NERVOUS SYSTEM.

79.—THE TREATMENT OF ABSCESS OF THE BRAIN.

By JOSEPH COLLINS, M.D., of New York.

Viewed from a therapeutic stand-point, abscess is by all means the most important disease to which the brain is liable. Its causation is well known; its pathogeny is clearly understood; its treatment calls for one measure, viz., prompt surgical interference. A few years ago the hopelessness of cases of brain abscess was appalling. To-day surgical treatment offers a far greater prospect of cure than in any other intracranial lesion. The inevitable course of abscess in the brain being to death, which medical treatment has no influence to delay, it behoves us to recognise the gravity of the condition, and when face to face with the indications of such disease to utilise early and vigorously the only means in our power to cope with it. That this statement is entirely true no one will be likely to deny. Despite the recognition of its truthfulness, and the widespread acceptance of it, the literary records of each succeeding year show that the mortality rate of abscess of the brain has not fallen as it should have done. This result may be attributed to two factors: first, to lack of early recognition of the disease, apart from its localisation; and, second, to the fact that surgeons are oftentimes not sufficiently assiduous in their search for it. That the mortality-rate of abscess of the brain is not so great to-day as it was several years ago is due not alone to the fuller comprehension of its amenability

to surgical treatment, but to an understanding of the relationship existing between it and certain preventable and curable diseases to which it is secondary. Thus, the requirements of modern surgery are such that wounds of the soft and hard parts of the head are maintained aseptic. Therefore, this causation of brain abscess (and it will not be forgotten that, according to the statistics of some, nearly one-half of all the cases are of this origin) has succumbed, in a measure, to the advancement of medical science. The fact that a third of all cases of intracranial abscess are secondary to otitic and rhinitic diseases which are amenable to treatment is generally recognised, but not generally heeded. Certain it is that the general practitioner is not sufficiently insistent upon examination of the ear after the occurrence of infectious disease, and not sufficiently persistent in the treatment of otitis media when it is found. The other sources of brain abscess, viz., the metastatic, are not so submissive to prophylactic treatment. Therefore, they continue to occur with about the same frequency as before.

[Dr. Collins then discusses in detail 18 cases recorded during 1898. Nine of the 18 were trephined. Of the 18 cases only one recovered, and that was a case operated upon by Littlewood of Leeds, and recorded by Roper (see *Retrospect*, vol. cxvii.). Dr. Collins also briefly mentions cases recorded by four other observers.]

Thus it will be seen that a brief retrospect of the more important literature on brain abscess for the past year shows a deplorable mortality. The most potent factor in contributing to this frightful mortality is the failure to recognise the existence of abscess of the brain before it has produced either septic complications or profound exhaustion. Surgical technic has apparently very little, if anything, to do with it. The mortality-rate of brain abscess will drop just in proportion to the earliness of recognition and the courage of the physician in directing the surgeon to seek for it, even though there be no exact localising symptoms. Abscess of the brain secondary to middle-ear disease is located in the vast majority of cases either in the temporal lobe or in the cerebellar hemisphere of the same side. When one is reasonably sure of the existence of brain abscess, no hesitation should be had in exploring first one of these regions, and then, if it is not found, the other. Delaying the operation until the appearance of unequivocal localising symptoms, or procrastinating by operating on the mastoid after symptoms of brain abscess are evident, when one is reasonably assured that abscess exists, is a far greater injustice to the patient than subjecting him to an exploratory trephining.—*American Journal of Medical Science*, April, 1899.

ALIMENTARY CANAL.

80.—LEUCOPLAKIA.

By JOHN S. MARSHALL, M.D., Chicago.

[The following is taken from Dr. Marshall's paper:]

Symptoms and diagnosis.—Leucoplakia may be recognised by the presence of circumscribed or diffuse, smooth, white, bluish-white or pearly-white radiating patches appearing in varying numbers upon the mucous membrane of the cheeks, lips, gums, palate or tongue. These patches often coalesce to form larger ones. In their earliest stage they are not elevated above the surrounding membrane, are smooth and glistening in appearance, and range in size from tiny, irregularly-outlined spots, to large plaques the size of a silver half-dollar, or even larger. At first they are not sensitive, and on this account may exist for a long time without the knowledge of the patient. Many cases never progress beyond this stage. Others may slowly increase in size, thickness and intensity of colour, the plaque being slightly raised, the surface hard—cornified—and roughened. Accompanying this stage—especially when the disease is located upon the dorsum of the tongue—the patient will complain of a persistent dryness of the parts and inability to speak or use the tongue with comfort, except by frequent moistening of the mouth. Later, fissures appear in the tongue, and there is developed a smarting, burning sensation, as though the parts had been scalded. Alcoholic liquors, fermented beverages, acid fruits, highly seasoned or very hot food or drinks, and chewing and smoking tobacco increase these sensations, and sometimes render the partaking of food a very great discomfort. Associated with this condition, there is a tendency of some portion of the plaque to peel off or slough out from time to time, leaving a reddened or raw surface which is exceedingly sensitive, and sometimes quite painful. Ulceration may follow, and degenerative changes develop, ending in the formation of a carcinoma. When the disease is in the tongue, warty growths sometimes appear in the leucomatous patches, which show a marked tendency under the stimulation of an irritant to take on a rapid form of carcinomatous degeneration. Authorities are not agreed, however, as to the earliest developments of the leucomatous patch.

Another fact should also be borne in mind in diagnosing this affection, viz. :—The progress of the disease is in many instances very slow and may have the appearance of having reached the limits of its development, while occasionally the disease may

disappear with advancing age. On the other hand, the disease, which has seemed for many years to remain in about the same condition, may suddenly assume a most rapid and malignant type of degeneration.

Differential diagnosis.—The affections which may be confounded with leucoplakia buccalis are the muco-plaques of syphilis and epithelioma. In the earlier stages of the disease such a mistake could hardly be made, but in the later period of the affection it might quite easily be confounded with syphilis or epithelioma. A three or four weeks' course of treatment with the iodide of mercury or potassium would clear up the diagnosis of the former, while in the latter it would be necessary to resort to the aid of the microscope for a positive diagnosis, even though there was present the clinical evidence of enlarged lymphatic glands.

Treatment.—Leucoplakia of the oral mucous membrane is generally exceedingly rebellious to treatment, and quite often shows a marked tendency to carcinomatous degeneration; therefore the measures employed are, perforce, largely those of palliation and heroic operations. Those cases, however, which give a clear history of syphilitic infection may be benefited by a course of antisyphilitic treatment; but it may be stated as a fact, that up to the present time no drug has been discovered which, acting constitutionally, has any beneficial effect whatever upon the progress of leucoplakia. The preventive measures which may be instituted in the treatment of leucoplakia are the removal or discontinuance of all forms of chemic and mechanic irritation. The mechanic irritants which are most common in the mouth are usually associated with the teeth or with artificial dentures, such as carious cavities, jagged roots, fractured teeth, salivary calculus, rough or ill-fitting plates, or plates made of a material which are irritating to a sensitive mucous membrane. All such forms of irritation should be at once removed, by filling the cavities, extracting the roots, giving appropriate treatment to the fractured teeth, removing the salivary calculus and carefully polishing the surfaces of the teeth, while the irritating artificial denture should be replaced by others free from these objections, or discarded altogether. Too much stress can not be laid upon these points as a safeguard to the patient against the development of the malignant form of the disease.

Palliative treatment.—This consists of the use of alkaline lotions or mouth washes. Butlin recommends for this purpose in the milder cases, bicarbonate of potassium, 15 to 20 grains in one ounce of water, and in the syphilitic cases, chromic acid, 1 to 2 grains to the ounce of water, or a 5- to 10-grain solution may be painted upon the plaques. Bicyanide of mercury is also recommended in solution of 1 to 2 grains to an ounce of

water, and painted upon the plaques. In the severer cases, he recommends solutions of bicarbonate of soda or of boric acid. He thinks mel boracis (honey and borax) is better suited to some cases than alkaline solutions, but as a general rule, the alkaline solutions give greater relief in cases of leucoplakia of long standing. A trial of these various remedies is necessary in order to find the one best suited to the individual case.

Surgical treatment.—In the severer forms of the disease, radical operation is the only safe method to follow. The tendency of the disease to assume a malignant character should cause it to be treated as a malignant growth, and thorough extirpation practised at the earliest moment. Perrin, who reports a case of leucoplakia linguæ and labialis with papillomatous epithelial degeneration, secured a permanent recovery by the thorough extirpation of the plaques by surgical means. He urges early and complete extirpation as the only way by which to avoid a final transformation of the disease into true epithelial carcinoma. Dubois-Havenith has exhibited a case of leucoplakia linguæ upon the left border of the tongue, which was successfully treated by curetting and the galvano-cautery. Butlin does not recommend the early excision of the plaques when the disease is located in the tongue, unless it “is very obstinate, and scarcely at all relieved by treatment”; but he has no doubt of the wisdom of such an operation in “indurations, warty growths and very obstinate ulcers, particularly when they present the slightest increase of induration about their bases. Such conditions must be considered as young cancers, and must be dealt with as if they were in truth cancers.” Hulke urges early excision of all hard and warty patches (ichthyosis) upon the tongue before they attain a large size as the only means of cure.—*Journal of the American Medical Association, February 25, 1899.*

81.—INTRAPERITONEAL DRAINAGE.

The cases in which intraperitoneal drainage is really required at the present time are very few. This is fully borne out by Dr. J. G. Clark (*Johns Hopkins Hosp. Rep.*, 1898, vii.) in a critical review of 1,700 cases of abdominal section, which goes to prove “that not only is drainage valueless in the great majority of cases in which it has hitherto been used, and is still used by some surgeons and gynæcologists, but that it is frequently productive of harm.”

Clark's objections to intraperitoneal drainage may be thus summed up: (1) There is a traumatic and chemical irritation

produced by the drainage material. The long contact of a foreign body alone, and still more if such substance is impregnated with any germicidal chemical, produces a destruction of the endothelium of the peritoneum, and thereby reduces its power of absorption. (2) Healing is retarded. This is almost a necessary corollary, but his tables clearly show that the percentage line of local suppuration practically coincides with the rise and fall of the use of the drainage-tube; and the fact that the organisms found in these cases are mostly those which are normally found in the skin goes far to show that they have gained admission by means of the drain. (3) Drainage is not effective in removing fluids and infectious matter. This has been demonstrated by numerous post-mortem examinations. The most that the drain can do after the first few hours is to drain a small pocket which has been shut off from the general peritoneal cavity by adhesions. (4) Infection frequently occurs through the drainage track. (5) Post-operative obstruction of the bowel. Although obstinate constipation, tympanites, nausea, and vomiting after operations in which drains are employed are due to a constrained position of the intestines around the drain, the presence of actual obstruction is rare. (6) Fæcal fistula. This is also a rare result of drainage, and occurred only once in the series of 1,700 cases, and was due in this instance to a pressure necrosis caused by a glass tube on the bowel. (7) Vesical complications. The inflammatory reaction around the drain may cause irritability of bladder, dysuria, or cystitis; adhesions may prevent the normal distension or contraction of the bladder; or a suppurating cavity may rupture into the bladder. (8) Post-operative hernia. It is difficult to estimate the proportion of cases in which this occurs, but Clark thinks it cannot be less than 8 per cent. of cases in which an extensive drain has been employed. By carefully comparing the results in 100 similar pelvic inflammatory cases, drained and undrained, Clark shows that in drained cases suppuration of the abdominal wound, persistent vomiting, tympanites, vesical irritation, and post-operative pelvic inflammatory deposits are one and all more common than in undrained cases. Under the same conditions it was found that the mortality of the drained cases was 13 per cent. and that of the undrained cases only 6 per cent. The results of the two classes are widely different, and one can scarcely attribute them to the more serious nature of the drained cases, for in the later cases many were not drained which would formerly have been treated by drainage.

In addition to the ordinary means (such as disinfection of hands, isolation of the general peritoneal cavity during operation, &c.) which most surgeons would naturally adopt in the

prevention and removal of infection without the employment of drainage, the author advocates other procedures which are open to discussion. These are, irrigation of the peritoneal cavity; the use of saline infusions into the peritoneal cavity followed by postural drainage; and submammary saline infusions. Many operators would join issue on the advice to thoroughly irrigate the abdomen with normal salt solution "after every operation where *débris* or normal fluids escape into the peritoneal cavity"; but Clark seems to prefer it, and leaves about a litre of the salt solution in the peritoneal cavity before closing the parietal wound, on the principle that foreign matter is more likely to be easily disposed of when in a finely divided state.

Postural drainage—by elevating the pelvis after operation—is advocated to prevent fluids stagnating in the dependent parts of the abdominal cavity and so forming "dead spaces," which may furnish favourable culture media for infective organisms, and also to assist the normal intraperitoneal current in the direction of the diaphragm. The best way of carrying this out is to raise the foot of the bed about 20 degrees and to maintain this position for 24 or 36 hours. The postural method is regarded as a prophylactic measure against post-operative peritonitis, but is useless as a curative measure when peritonitis is established. It should therefore not be employed in cases of purulent peritonitis or in conditions associated with general peritonitis, as for example in some cases of appendicitis. A limited experience leads the author to agree with the result of the investigations of Bosc and Claisse—that submammary saline infusions are beneficial in septic cases. A litre of salt solution is injected daily beneath the mamma until distinct improvement occurs. As a result of his review of all classes of drained cases, the author reduces the conditions in which drainage is indicated to the following: (1) In cases of appendicitis when a secure closure of the stump of the appendix is prevented by the infiltrated condition of the peritoneum and adjacent tissues; or when the appendix has ruptured and caused a local abscess or general peritonitis. (2) In localised collections of pus in the pelvis a drain must be used. The drainage of these cavities, however, through the peritoneum from above is extremely likely to lead to a fatal peritonitis, and they are best treated by incision and drainage through the vagina without opening the peritoneal cavity at all. (3) In suture of the intestine it may be necessary to employ a drain when there is doubt about the security of the suturing. (4) In excision of fistulous tracks leading from the intestine to the abdominal wall, a sterilised gauze drain should be packed down to the sutured areas in the intestine which is prone to break

down and re-establish the track. (5) In cases of purulent peritonitis free drainage through lateral openings in the flanks as well as in the centre of the abdomen is frequently necessary.

The list here given is shorter than that which the majority of surgeons might adopt, but there is little doubt that with improved technique it will be still further diminished. I have completely closed the abdomen after the excision of a fistulous track leading from the parietes to the intestine; and have elsewhere referred to cases of purulent peritonitis treated successfully by Finney, by thoroughly mopping the intestines until all pus and fibrinous exudate was cleaned away and the abdomen closed without drainage. The use of the drain will be practically discarded in the near future. The enormous power of absorption of the uninjured peritoneum is becoming rapidly recognised, and with simpler methods based on sounder principles the mortality of abdominal operations will become further lessened.—*From Mr. James Swain's Summary, Bristol Medico-Chirurgical Journal, December, 1898.*

82.—LAPAROTOMY FOR PENETRATING WOUNDS OF THE ABDOMEN.

Two recent discussions bring this subject prominently into notice once more. Professor Senn is reported by our Chicago correspondent (*Medical News*, December 3) to have said that a certain number of gunshot wounds of the abdomen recover without operation, and that a man shot from before backward at the level of the umbilicus or above it has a fair chance of recovery without operative interference. He has held this opinion now for several years, has confirmed it experimentally, and strengthened it by his experience during the Spanish-American war. In a recent issue we reported the discussion of the same subject at this year's meeting of the Southern Surgical and Gynæcological Association. This association adopted unanimously at its meeting last year a resolution to the effect that in penetrating wounds of the abdomen it is the duty of the surgeon always to make an exploratory incision, so as to definitely determine whether the abdominal viscera have been seriously injured or not. This year's discussion brought out very clearly the fact that our Southern brethren, whose opportunities for seeing gunshot wounds of the abdomen are comparatively much greater than those of Northern surgeons, are still practically unanimous in declaring for laparotomy in every case. Even

Dr. Parker, who had seen recovery without operation in about 50 per cent. of the penetrating wounds of the abdomen received during the recent war, still believes in laparotomy in every case in civil life. In active warfare circumstances are different. The wounds produced by the small bullet, with high velocity of the modern military rifle, are not always such as permit extravasation of the contents of hollow viscera, and do not seriously tear, as often as might be expected, important blood-vessels. During the recent campaign, too, the facilities for abdominal operative work were necessarily imperfect, so that expectant treatment was, under the circumstances, very good conservative surgery. In civil life, however, gunshot wounds of the abdomen are often produced by large calibre bullets, of comparatively low velocity, whose lacerating power is increased by their carrying with them portions of clothing (something the rifle bullets during the war did not do). When such wounds are treated in a hospital where all the facilities are at hand for aseptic exploration, it seems taking needless risk not to make assurance doubly sure by actual inspection. Exploratory laparotomy in every case would certainly decrease the mortality, for even Professor Senn admits that in his experiment in only four out of sixteen cases did the intestines escape injury, even with the wounds above the umbilicus. A perfectly aseptic exploratory laparotomy ought, on the other hand, to add practically nothing to the patient's risks if proper precautions are taken to avoid shock, by exposing the intestines only as little as possible during careful exploration, and by making provision for keeping them at body temperature.

To wait till symptoms of perforation show themselves is to invite a fatal issue in nearly every case. The symptoms immediately following the injury are almost invariably dubious in the extreme, so that no rule of safe guidance for operation can be drawn from them. A great many lives would undoubtedly be saved by immediate laparotomy. The mortality of the cases that proved after exploration to have no intestinal perforation or serious bleeding-points would practically not be raised, so that despite our war experience the old rule as to immediate laparotomy for penetrating wounds of the abdomen seems a very proper one. Especially is this true if the wound has taken place within a couple of hours after the taking of a full meal. It seems unquestionable that some of the favourable results of abdominal gunshot wounds during the late war were due to the fact that soldiers received them after fasting for long periods, or that the wounded were suffering at the time from some form of diarrhoeic trouble, which, while decreasing their appetites, secured a thorough emptiness of the intestines in other ways. Even a defective quarter-master department and the tendency

to intestinal diseases among soldiers do not seem in this view to be entirely without their compensation or their places in Nature's conservatism. Such factors must not, however, be allowed to influence to any serious extent the surgical policy that will obtain for the next few years in the treatment of abdominal gunshot wounds in civil life.—*From a leading article in the Medical News, December 24, 1898.*

83.—SCHLATTER'S CASE OF TOTAL EXTIRPATION OF THE STOMACH.

By CARL SCHLATTER, M.D., of Zurich.

[The patient from whom the whole stomach was removed for diffuse carcinoma on September 6, 1897, died on October 29, 1898. The following is an abridged report of the case from Dr. Schlatter's paper. See also *Retrospect*, vol. cxviii.]

About the end of May, 1898, the patient, who felt and appeared well, left the hospital and spent some time visiting relatives. In August she returned to the hospital, still feeling well, but having lost two kilos in weight. On August 22 her weight had again increased to thirty-eight kilos. About the beginning of September the patient began to complain occasionally of a painful sensation in the left hypochondrium after taking solid food, but after liquid food that was not complained of. On October 2 examination of the abdomen revealed the presence of a tumour, the size of a child's head, hard, nodular, and painful on pressure, extending from the middle line into the left hypochondrium and downward. The patient did not vomit, but frequently had eructations of a clear yellowish fluid. At the same time some enlarged and hard lymph glands could be felt in the left supraclavicular region. On October 28 the appearance of the patient had markedly changed since the previous day; the face was cachectic-looking and sallow, the pulse was rapid and markedly dirotic, and dyspnoea was present, but there was no elevation of temperature. The patient died the next day.

Post-mortem appearances.—On opening the abdomen the parietal peritoneum was seen to be adherent to the superficial portion of the abdominal contents. In the peritoneal cavity was a tolerably large amount of a grayish cloudy fluid. In consequence of the adhesions the liver was strongly drawn to the left side, so that between the liver and diaphragm there was a cavity containing nearly a litre of fluid. Immediately after the passage of the œsophagus through the diaphragm the œsophagus

bent almost at right angles to the left, and after a short horizontal course runs again vertically. The length of the sub-diaphragmatic portion of the œsophagus was nearly eight centimetres. Its lowest portion was somewhat dilated, due in part to a carcinomatous infiltration of its inner wall. The afferent loop of the jejunum extended from the plica duodeno-jejunalis beneath the transverse colon, the broad junction with the œsophagus and the efferent intestinal coil. Upon following up the afferent intestinal tube we found the end of the duodenum, forming a cul-de-sac near the pylorus, in no way altered—neither atrophied nor hypertrophied, and the efferent portions of the intestine were also in no particular abnormal. Large hard collections of lymph glands were found between the liver and œsophagus, in the mesentery, and behind the peritoneum. In the pancreas also nothing abnormal was to be seen. The anatomical diagnosis is, therefore :—Carcinomatous lymphatic metastases in the mesenteric, retroperitoneal, bronchial, and supraclavicular glands, and studding of the pulmonary pleura with metastatic carcinomatous nodules. The only explanation we have of the patient's ability to take such a large quantity of food is that the fluid and softer portion passed at once into the small intestine.

It need hardly be remarked, in conclusion, that the death of the patient was due to the multiple carcinomatous metastases, and could not at all be ascribed to inanition from insufficient nutrition. An entire year had the fifty-seven-year-old woman lived free from suffering, without a stomach, and had even gained notably in body weight in that time. Up to within the last week of her life she had been able to go about outside of the hospital, but then the appearance of cachectic symptoms had rapidly succumbed to her malady.—*Medical Record, March 18, 1899.*

84.—THE LATER RESULTS OF GASTRO-ENTEROSTOMY.

By MM. HARTMANN and SOUPAULT.

The authors contribute a series of articles on this subject to the *Rev. de chir.*, Paris, based upon twenty cases which have been under their immediate observation. Their results are more or less in harmony with those arrived at by other observers. The most striking result of a successful gastro-enterostomy is the disappearance or amelioration of subjective symptoms referred to the stomach, *e.g.*, pains, vomiting, &c. The appetite returns, and the patient is able to indulge in

articles of food which would, prior to the operation, have provoked considerable suffering, especially in those the victims of pyloric obstruction, whether functional or organic. The general health improves, the febrile attacks disappear, and the body-weight increases. These phenomena are especially marked in cases of innocent stenosis of the pylorus ; they are exceptional in malignant obstruction, and are scarcely to be expected, seeing the patient continues to suffer from the cancer which is left *in situ*. The average duration of life after gastro-enterostomy for pyloric carcinoma, amounts to seven months.

As regards the changes in the stomach which follow upon the operation, the authors have observed a general tendency of the organ to return to its normal dimensions. The degree varies in different cases. It depends very much on the condition of its musculature before operation, and this depends more upon the duration of the pyloric obstruction than upon its innocent or malignant character. In cancerous stricture, the normal dimensions of the stomach may be more rapidly recovered, because the obstruction is more rapidly developed. Adhesions which fix the stomach in an abnormal position may interfere with its contraction after operation. The procedure of inflating the stomach, which was employed to indicate its dimensions, was also of service in demonstrating the continence of the artificial opening into the intestine. The introduction into the stomach of even considerable quantities of gas does not force the opening into the bowel ; it escapes more easily by the cardia and œsophagus. The continence of the new opening is not due to the formation of a sphincter. The explanation would appear to be that, in the resting condition of the stomach, the lips of the opening are approximated by the elasticity of the muscular tunic, and by the tension of the walls of the organs ; when the stomach contracts the orifice opens and is "forced" by the current of food. Although the cessation of vomiting and the improvement of the general health indicate the sufficient passage of the gastric contents into the intestine, the motor functions of the stomach are never quite restored. The food lingers in the stomach, especially when the opening into the intestines is narrow or has not been made at the most dependent part of the organ. The chemical changes within the stomach are usually considerably altered in patients who have undergone gastro-enterostomy. In malignant cases the liquid withdrawn during fasting is often neutral ; in innocent stenosis of the pylorus the acidity is always diminished, and it may disappear altogether. The diminution is partly due to the presence of bile, partly to the fact that the food escapes more rapidly from the stomach, and therefore acts more feebly in exciting secretion, and partly also

to the loss of function or atrophy of the glands of the stomach, resulting from the condition on account of which the gastro-enterostomy was performed, which atrophy continues to progress after the operation. There is further a delay in the production of the secreted elements of the juice. The regurgitation of bile into the stomach is extremely common after gastro-enterostomy; it takes place through the artificial opening, apparently in an intermittent fashion; the maximum occurs about one and a half hours after a meal, when the biliary secretion is stimulated by the contact of the food with the mucous membrane of the intestine. To prevent this regurgitation of bile into the stomach, many surgeons make an anastomosis between the afferent and efferent segments of the loop which communicates with the stomach (gastro-enterostomy + entero-anastomosis). The authors hold, however, that no harm whatever results from the presence of even large quantities of bile in the stomach, basing this opinion on the successful results of cholecysto-gastrostomies both in the dog and in the human subject, in which all the bile has been made to flow into the stomach, without causing sickness or any discomfort, or any interference with gastric digestion. It is a very different matter, if the food regurgitates from the intestine into the stomach, along with the bile; the patient then suffers from the most persistent vomiting, and usually succumbs.

As regards the excretions after gastro-enterostomy, they are usually quite satisfactory. The constipation, which is so marked a feature in pyloric obstruction, usually disappears. The urinary secretion soon becomes normal in amount and quality, both in the innocent and malignant forms of stenosis of the pylorus.—*Dr. Alexis Thomson's summary in the Edinburgh Medical Journal, May, 1899.*

85.—VENTRAL HERNIA.

By JOHN W. KEEFE, M.D., Providence, R.I.,
Surgeon to the Rhode Island and the St. Joseph's Hospitals.

[The details of seven cases are omitted. Six out of the seven cases were operated on, and all with success.]

Ventral hernia is a subject about which the text-books of the present day say but little, and in consequence the practitioner is prone to advise an abdominal support and say that nothing further is of value. The good results obtained by surgeons during the last decade in operations performed for the radical cure of hernia have led me to address you on this subject and

to present cases in illustration of this distressing condition and its treatment by operation. Umbilical hernia is most frequently found in middle-aged women, child-bearing and obesity being most commonly the causes. One of the unfortunate results occasionally attending the many coeliotomies of the present day is a hernia at the site of the abdominal incision, most frequently observed in operations for appendicitis where the wound has been allowed to heal by granulation. Bull reports fifty cases following operations for appendicitis which presented themselves at the Hospital for Ruptured and Crippled during a period of two years. The length of the incision, cutting off the nerve supply of the muscles, dividing muscular fibres, and the use of gauze drainage are factors worthy of careful consideration while operating for appendicitis.

The diagnosis of a ventral hernia can usually be readily made by inspection and palpation. The coverings of the hernia are skin, subcutaneous tissues and peritoneum. The contents are omentum, intestine, or both. The hernia may cause no inconvenience for years, and for this reason many are permitted to attain a great size, and then may be attended with distress, difficulty of locomotion, pain, nausea, vomiting, strangulation of the intestine and peritonitis. Constipation and other digestive disturbances may be due to hernia. Spontaneous cure has never been known to occur in a case of ventral hernia in an adult. Abdominal binders and trusses may prevent increase in the size of the hernia and give support, thus giving a feeling of comfort to the patient, but never a cure. Proper surgical treatment, in selected cases, is the best method to employ for radical cure of a ventral hernia. In many cases the operation is simple, and attended with little risk to the patient and a complete cure of the hernia. In herniæ of long standing, the contents being irreducible, those of large size, those where there is atrophy of the muscles surrounding the hernia, and in old subjects, an operation may be contraindicated. One may meet with one of the most difficult operations the surgeon has to deal with, in a hernia containing adherent and gangrenous omentum and intestine. The high percentage of mortality attending operations for the cure of strangulated hernia is a beacon warning us to operate early, when the hernia is of small size, and the patient in good physical condition, and not debilitated by pain and vomiting, perhaps stercoraceous in character. Bull and Coley report a mortality of less than 1 per cent. in 400 operations for radical cure of hernia. The patient may be prepared for the operation by daily baths, cathartics and enemas, with frequent doses of benzo-beta-naphthol, which I have found of great value in producing a collapsed condition of the intestines. A bichloride poultice applied over the

abdomen some hours previous to the operation, followed by scrubbing and the use of the numerous antiseptics—mercury, permanganate of potash, oxalic acid and a liberal washing with normal salt solution,—renders the site of the operation as nearly sterile as is necessary. The incision may be over the most prominent part of the hernia, or, preferably, elliptical, including the hernia sac. The sac in the vicinity of the ring should be dissected free and the muscle exposed on either side. When we have a reducible hernia to deal with, the contents should be returned to the abdominal cavity before opening the sac. Where the contents are adherent, the omentum, intestine, or both should be carefully dissected from the sac and the superfluous or gangrenous omentum excised, a chain catgut ligature being used to control hemorrhage. The sac, including the fibrous ring, should be removed and the peritoneum united with catgut. My preference for bringing the fascia together is a buried silver-wire mattress suture or a machine-stitch of silkworm-gut, the ends of which are brought out through the skin at either end of the wound, thus enabling one to remove them at the end of four weeks. Schede, of Bonn, Barker, of London, and Halsted, of Baltimore, prefer the buried silver wire, while Coley and others always use kangaroo tendon. The adipose tissue and skin may be united with catgut, or silkworm-gut may be used in the integument. Sterilised gauze, cotton, and a well-fitting binder constitute the dressing. The after-treatment consists of hot water for the first twenty-four hours, with an eighth of morphia if necessary, followed by easily digested nourishment.—*Boston Medical and Surgical Journal*, February 16, 1899.

86.—SEVEN CASES OF VOLVULUS TREATED BY ABDOMINAL SECTION.—THREE RECOVERIES.

By HARRY LITTLEWOOD, F.R.C.S. Eng.,
Honorary Surgeon, General Infirmary, Leeds.

[The following is taken from Mr. Littlewood's paper. The details of the cases are omitted here :]

During the past three years I have had what I believe to be a somewhat unique experience in cases of volvulus, having been called to operate seven times for this condition and having had the good fortune to record three recoveries. Up to the time of seeing my first case (on December 3, 1895) I had never seen a case of volvulus either in my own or in the practice of any

other surgeon, and the condition is apparently so rare that Kocher stated in a paper on Intestinal Obstruction which he read at the meeting of the British Medical Association at Edinburgh that he had only operated six times for volvulus, and that only one of his patients recovered.

Case 1.—Volvulus of the large intestine (part of the transverse and descending colons and part of the sigmoid flexure); abdominal section; death.

Case 2.—Volvulus of the cæcum, part of the ascending colon, and part of the ileum; operation; recovery.

Case 3.—Volvulus of the sigmoid flexure; operation; death.

Case 4.—Volvulus of the sigmoid flexure; operation; recovery.

Case 5.—Volvulus of the small intestine; operation; gangrene of volvulus; removal of gangrenous bowel and subsequent suture of the bowel; recovery.

Case 6.—Volvulus of small intestine; operation; death.

Case 7.—Volvulus of the small intestine; tuberculous mesenteric glands and adhesions; operation; death.

What strikes me most forcibly in seeing cases of intestinal obstruction is the difficulty in making a diagnosis, and it is probably this very difficulty which fascinates one. I have to confess that out of the seven cases I only made a correct diagnosis in one; that was Case 2, and I made that with some reservation, as although the chief signs were present, still the patient did not appear ill enough to warrant the diagnosis of such a grave condition. Case 1 we thought probably might be a case of perforated gastric ulcer. In the other cases there was so much general peritonitis and distension that I think the making of a correct diagnosis as to the actual cause of obstruction was well-nigh impossible. Volvulus of the small intestine is considered a very rare condition unless some cases of transient acute obstruction which readily clear up are really cases of partial volvulus. Descriptions of actual cases demonstrated either on the operating table or in the post-mortem room are certainly very rare. Mr. Thorburn has a very valuable paper on this subject in the *Manchester Medical Chronicle* for June, 1898, with a record of three cases, one of which is an undoubted case of volvulus, and I agree with him in thinking that a volvulus is the best explanation of the other cases. Case 5 suggests that the disarrangement of the bowels which must sometimes follow on the emptying of the gravid uterus may be the starting of a volvulus of the small intestine. The sudden onset in this case may have been caused by the patient assuming the upright position. I have thought that if the symptoms in this case had commenced a few days after the confinement a diagnosis of post-puerperal septic peritonitis might have been made, and if this is a reasonable suggestion

it is possible that there are cases which are diagnosed and certified as post-puerperal peritonitis which are really cases of twisting of the bowels, and that the peritoneum is infected from the intestine, and not from the uterus. It is also more than probable that the correct explanation of some of the fatal cases of peritonitis occurring after ovariectomy and other similar operations may be that the infecting organism comes from a twisted or kinked bowel. Dr. Donald's case quoted by Mr. Thorburn supports this view—a case in which there was found, sharply defined, gangrene of five feet of ileum 35 hours after a simple ovariectomy—and I imagine that most operators must have seen cases of peritonitis after ovariectomy in which they have suspected that the infection has been derived from the intestinal tract. As to the causation of volvulus, in the large intestine a long mesentery appears necessary for its production. The normal length of the mesentery of the small intestine would seem to be favourable for the production of a volvulus, the small intestine being as it were suspended by its mesentery. In none of the cases did previous constipation apparently play any causative part—in fact, it was quite curious to note that in the cases of volvulus of the large intestine there were no hardened fæces, the contents being gaseous and liquid. In some of the cases visible peristalsis was noted. I am inclined to think that this movement occurred in the bowel above the twist, and not in the volvulus itself. It appears to me that peristalsis is not likely to occur in the twisted gut.

The treatment of the volvulus adopted varied in the different cases. In Case 1 the volvulus was simply reduced after letting out the gas. In Cases 2 and 4 the anus was dilated and the contents of the volvulus and colon were squeezed out without opening the bowel, the after-treatment consisting of the administration of saline purgatives and washing out the bowel. Both these cases recovered. In Case 3 the contents of the volvulus were evacuated after incision. In Case 5 the volvulus was simply untwisted and the pelvis was drained. The volvulus subsequently becoming gangrenous was then removed, and later the intestinal continuity was restored. In Cases 6 and 7 the intestine was opened and a Paul's tube was inserted in the coil, in the former case at the time of the operation, and in the latter 24 hours after.

The mortality in cases of intestinal obstruction, whether from volvulus or from any other cause, is fortunately diminishing, and this is undoubtedly due to the fact that the profession is appreciating the great importance of early surgical interference in the large majority of cases of that condition.—*The Lancet*, February 18, 1899.

87.—THE OPERATIVE TREATMENT OF DISTENDED SMALL INTESTINE IN ACUTE OBSTRUCTION AND IN ACUTE PERITONITIS.

By A. E. MAYLARD, M.B., B.S. Lond.,
Surgeon to the Victoria Infirmary, Glasgow.

[From Mr. Maylard's paper. The cases and other parts are omitted.]

Many as are the points which have to be considered in the operative treatment of acute intestinal obstruction, those connected with the distended gut are, in importance, secondary only to the removal of the exciting cause. To remove the cause, and yet to neglect the over-distended and loaded intestine, is frequently to lose a life that might have been saved.

All operative measures for the relief of obstruction involving distension of the small gut must have in view :—(1) The prevention of any increase in the distension of the bowel ; (2) the removal, as completely as possible, of the intestinal contents. There is no doubt that the bowel when within the abdomen is to a considerable extent supported by the abdominal parietes, and its distension thereby limited ; and that its limits are the sooner reached the lower the seat of the obstruction. For example, if the obstruction be at the caecal end of the ileum, there is a long extent of the bowel to be dilated, and the coils as they distend support each other and limit the dilatation. When, on the other hand, the obstruction is nearest the upper end of the jejunum there is less limiting resistance offered by the lower collapsed coils, and so more room is afforded for the distension of the proximal segment. The marked effect produced by this intra-abdominal pressure I observed in some of my earlier cases, when it was my custom immediately on opening the abdominal cavity to evert the distended coils and allow them to lie in a specially shaped hot-water receiver while I sought for the cause of obstruction. I was impressed with the increased size which the exposed and unsupported coils rapidly assumed. The question then arose, in view of the evils connected with additional distension, whether it would not be wiser to reverse the order of procedure and empty the bowels before attempting to find the cause of the obstruction. This course I now always pursue, as, I believe,

with the best results. After opening the abdominal cavity, the distended coil that presents is at once withdrawn sufficiently to admit of an incision being made in its long axis, so as to allow the contents to escape without risk of contaminating the peritoneal cavity. As they flow out and the bowel wall collapses a greater extent of gut is withdrawn. This part of the operation is taken charge of by assistants, while the operator is left free to seek for the obstruction.

If, as has been stated, there is truth in the assumption that the bowel contains products capable of producing a condition of toxæmia, then we may reasonably suppose that the risks of general infection are diminished in proportion to the amount of the poison we are able to remove. Acting on this belief, I am now in the habit of squeezing out the contents through the "evacuatory incision." Before or after the relief of the obstruction, as the case may require, the bowel is passed between the finger and thumb, the assistant meanwhile so securing the "evacuatory incision," that when pressure is exercised on the proximal segment the intestinal contents cannot pass on into the distal but must escape through the opening, and *vice versa* preventing the passage of the contents into the proximal segment when the distal is squeezed. When the bowel is much distended, and especially if there is any very great length involved, this squeezing out of the contents may have to be repeated several times, the bowel being taken up at different points and squeezed onwards or outwards. In such cases it is sometimes advantageous to make more than one "evacuatory incision" in order to lessen the time by shortening the extent of the canal through which its contents have to be squeezed. This stage of the operation is completed by closing the "evacuatory incision" with a continuous Lembert suture, and carefully cleansing the parts before returning the gut into the abdominal cavity.

The amount of handling of the intestines required in order to effect an approximately complete evacuation of their contents is necessarily considerable, but, contrary I believe to what would be expected and is usually supposed, the effect is beneficial rather than otherwise. I have not had a case where, so far as I can judge, it has not been so. If the bowel has not lost all its power of contraction, the squeezing seems to act as a stimulant to the muscular coat, and at the same time the vessels are to some extent relieved of their engorgement. It is a good sign if the bowel wrinkles after being emptied, as it indicates some contractile power on the part of the muscular coat; and it need hardly be pointed out that it is a still better sign if the bowel tends to evacuate its contents after the incision has been made independently of any squeezing.

In cases of peritonitis where the cause of bowel distension is paralysis of the muscular coat from inflammation of its serous covering, much good seems to follow the insertion of a solution of magnesium sulphate through the "evacuatory incision" just prior to its closure. After the contents have been thoroughly squeezed out, about an ounce of sulphate of magnesia in solution is injected through the "evacuatory incision." In cases which recover, this treatment brings about an early and copious evacuation of the bowels.—*British Medical Journal*, April 8, 1899.

88.—HÆMORRHOIDS IN CHILDREN.

By EDWARD W. ARCHIBALD, M.D., Resident Surgeon,
Royal Victoria Hospital.

[From Dr. Archibald's paper:]

In recent literature we find hardly anywhere anything beyond a mere mention of the fact that hæmorrhoids do occur in children, but are very rare. Ogston and Vincent report a case in a child 3 days old. It was apparently an inflamed external pile. Dr. Ogston, in a note appended to the report of this case, instances another example in a child of 4 months, in which none of the usual pre-disposing causes were present—portal congestion, liver disease, and over-loading of the rectum, with hard fæces. Keating says they are very rare in childhood. Ball had seen several cases in quite young children. Wharton, of Philadelphia, had observed one case at 5 or 6 years of age. Holt says the condition is not often seen in children, but may occur as young as 3 to 4 years. The piles are generally small and external. Bleeding is usually slight. Starr had seen several in young children. One at 3 years of age was so marked as to necessitate operation. Allingham is said to have reported a case, but I have been unable to find it. This case occurred in Dr. Bell's service, and the case report is as follows:—Patient, a girl, 8 years of age, was admitted on December 13, 1897, complaining of bleeding from the bowel. According to her mother's account, her trouble dated from about five years previously, when bleeding on defecation was first noticed. It came on about a week after a fall from a gallery, about twenty feet high, upon bare ground. There were no serious immediate consequences of the fall. Blood came away usually with stools, but occasionally also in the intervals of defecation. She frequently seemed to have griping pain during the act. The amount lost was never

large. Since onset bleeding had been present more or less all the time, save for remissions of various periods at irregular intervals. Two years ago had been free for about a year. She was never confined to bed, and never had serious pain with the trouble. For some time before entrance she had been dizzy and faint at times. No definite history of chronic constipation, although the mother thinks the child was sometimes constipated, and the child herself says she was.

The patient had whooping-cough and measles when a baby. Since then she has always been in the best of health, though not looked upon as strong. At the present time she is a fairly well nourished child, but small for her age; apparently in good general condition. Blood, in variable quantities, usually of a dark fluid character, sometimes bright red, is seen to come from the rectum after defecation. Quantity, at most, is about half an ounce (seen once), but is usually very much less. On digital examination nothing is felt. Vulva and vagina look normal, so far as visible. On palpation of the abdomen nothing abnormal is made out. The liver is normal to percussion and palpation. None of the other organs or functions give evidence of abnormality. On examination under ether, small but distinct venous piles were found inside the anus surrounding the lumen of the bowel, not inflamed, but bleeding readily on touching. She was discharged seven weeks after entrance, for the last three weeks of which she had had no bleeding. The hæmorrhoids were demonstrated easily on several occasions without the use of an anæsthetic. Her general condition remained excellent. She had no treatment beyond that of securing a free and soft stool every day. The conclusion seems warranted that we have here a case of bleeding hæmorrhoids in a child, beginning at the age of 3 years and lasting till the present time. Apart from the age of the patient, the interest of the case would appear to pertain mainly to the etiology of the condition. Some cause of circulatory disturbance is said to be usually at the bottom of the trouble—in children as in adults. Cirrhosis of the liver and chronic constipation are the main etiological factors accused. In the present case there was nothing of this nature to be made out save a very dubious history of constipation. That her attack of whooping-cough could have induced the trouble is certainly unlikely, and must remain matter of mere speculation. There was nothing hereditary in the case, a factor which, by the way, is frequently enough found in histories of circulatory disturbances generally and hæmorrhoids in particular. The case was seen again very recently. There had been only two recurrences of bleeding since discharge, slight on both occasions. General health has remained very good.—*Montreal Medical Journal*, January, 1899.

89.—A CASE OF ACUTE SUPPURATIVE
CHOLECYSTITIS.

By MOSES S. KAKELS, M.D., New York.

It is a well-known fact, as autopsies have proved, that calculi may lie in the gall bladder for many years, without producing any functional or pathological changes. Their presence, however, frequently manifests itself by certain clinical symptoms, due chiefly to their migration through the biliary passages. The symptom which would oftenest lead us to suspect their existence is colic, caused by the wandering of a stone from the gall bladder into the cystic or common duct. Jaundice may or may not accompany these seizures, it depending principally upon the amount of obstruction the concretion offers to the flow of bile in the common duct. When in addition to calculi there is an invasion of pyogenic organisms, grave symptoms may rapidly supervene. This occasionally occurs in the absence of any previous history whatsoever, and the objective and subjective symptoms due to an acute infective process may be the first manifestations of the existence of biliary concretions. Pain and tenderness over the region of the gall bladder often come on suddenly, gradually increase, and localised peritonitis due to the extension of the inflammatory process to the surrounding serosa sets in. Irregular temperatures, occasional rigors, rising pulse, nausea, and vomiting occur. In short, we have to deal with an acute infectious cholecystitis. *Bacterium coli commune*, the streptococci, staphylococci, and Eberth's bacillus may be the infective agents. The following case is illustrative of this condition :—

The patient, a woman 35 years of age, does not admit ever having had jaundice or any colicky pain referred to the epigastric region. On the evening of February 21, I found her suffering from acute pain referred to the pit of the stomach, radiating toward the back and between the shoulder-blades. She had been attending to her household duties during the day, and felt nothing except a slight heaviness in the stomach, which gradually grew worse. Of her own accord, believing she had an attack of indigestion from some indiscretion in diet, she took a dose of oil, but without any effect. She had vomited and had a slight chill before I arrived, and was pale from pain, with a pulse of 100 and temperature of 101° F. Sensitiveness over the epigastric region was marked. On careful and deep palpation extreme tenderness over the region of the gall bladder was elicited. The urine contained no sugar, albumin, or bile. A dose of calomel was prescribed, and an ice-bag was ordered

to be placed over the painful area. The next morning (Tuesday) the pain had increased, was extending toward the umbilical region, and abdominal resistance was more evident. There had been no vomiting, but the increasing nausea made the patient feel very bad. The region of the gall bladder was much more sensitive. By pressing the fingers well up under the liver a slight enlargement could be felt. The pulse was still over 100 and the temperature 101.5° F. -The bowels having moved from the calomel, small doses of morphine were ordered in order to alleviate the intense and constant pain. By Tuesday evening the pain was more localised and increased. Pulse, 110; temperature, 102° F. The patient had nausea and vomiting, with chilly sensations during the day; there was no flatus. From the extreme localised tenderness noticed the next morning, it was reasonably certain that the gall bladder was involved in an acute inflammatory process and perhaps with a commencing peritonitis. The temperature, though, had fallen to 101.5° F., but the pulse was still over 110. That night the temperature rose to 102.5° F., and pulse over 120. Chills had occurred during the day. All these symptoms pointed to a localised abscess. Guided by these conditions, I decided to operate at once; that was on the third day after the onset of the symptoms. The abdomen was opened by an oblique incision, about six inches long, the centre over the region of the gall bladder, the point of greatest tenderness. This viscus was found deeply situated under the liver and slightly distended, its serosa being very much congested and inflamed. It was drawn as much as possible toward the abdominal wound, and tampons were packed around to shut off the general peritoneal cavity. An aspirator withdrew about ninety grams of creamy pus, without admixture of blood or bile. The parietal peritoneum was loosened from its wall so as to facilitate the stitching of the gall bladder to its surface before incising it. When nearly completed some of the purulent fluid oozed through an accidental rent made by the teeth of the forceps which held the bladder in position, and fearing contamination I deemed it advisable to abandon the rest of the stitching for the time. However, enough sutures had been placed to prevent the gall bladder from slipping back. Packing was continued around the opening, and five days later, March 1, adhesions having formed by this time, the patient was again narcotized and the gall bladder opened. Its walls were found slightly thickened and inflamed, in parts necrotic. By forceps and scoop a dozen or more mulberry calculi which seemed embedded in meshes in its walls were removed; a little sero-purulent fluid was also withdrawn at this time. By careful probing no stone could be felt in the cystic duct. A drainage

tube was inserted, the wound was repacked with fresh iodoform gauze, a dry dressing was applied, and the patient was put to bed. In the absence of any flow of bile through the tube it is fair to assume that the cystic duct was occluded either as a result of a chronic inflammation of its walls or by thickening of its lining membrane due to the acute infective process. The patient made an uneventful recovery. The cardinal features of this case, which I think are worthy of consideration, are:— (1) That an acute infective inflammation of the gall bladder, containing calculi, may arise without any previous history of the existence of these concretions. (2) That the irregular temperature, high pulse, and chills point to a septic inflammatory process going on in the body; and the acuteness and extreme sensitiveness localised over the gall bladder make the diagnosis of a purulent cholecystitis fairly positive. (3) That it is best in such cases not to temporise when we are reasonably sure of our diagnosis, but to operate at once before perforation takes place and a purulent general peritonitis sets in.—*Medical Record*, April 15, 1899.

ORGANS OF URINE AND GENERATION.

90.—THE PATHOLOGY AND TREATMENT OF ACUTE GONORRHOEA IN THE MALE.

By ROBERT W. TAYLOR, M.D., of New York,
Clinical Professor of Venereal Diseases in the College of
Physicians and Surgeons, Columbia University.

[The following is taken from Dr. Taylor's paper:]

In the treatment of acute gonorrhœa at the earliest days of onset it is well to employ the old-time measures, namely, to keep the patient, if possible, at rest; to allow a spare diet; to avoid coffee, spices, liquors, highly seasoned dishes, and asparagus; to administer alkalies with hyoscyamus; to prescribe moderate purgation, and in general to follow an antiphlogistic course. No treatment is rational which does not include these wise and salutary measures.

Now, in the florid stage of gonorrhœa, with its profuse yellowish and perhaps bloody discharge, coming from a highly inflamed, swollen mucous membrane, it becomes a nice question whether one can apply local medication. In very severe cases for the first few days it is best to soak the penis every few hours in hot, concentrated boric-acid water, and perhaps by means of

a penis syringe, having a soft-rubber nozzle, to gently inject one or two ounces of this fluid into the anterior urethra. As a rule, this treatment alleviates the patient's sufferings, and lessens the inflammation. With the onset of amelioration, which usually occurs in a few days, we can adopt a more radical local treatment. To this end we introduce as far as the bulb the soft and compressible, bulbous-ended Mitchell's reflux catheter, which can be gently passed, without discomfort or any damage, down to the bulb, and through it we can slowly throw 2, 4, or 6 ounces of the warm boric solution, which returns and drops out of the meatus. As a result of these procedures the patient becomes much more comfortable, and there is a perceptible improvement in the urethral inflammation. When this subsidence of the very acute stage is noted, we can go a step further with our local applications. Thus we may replace the boric solution with warm lead-water, or we may use a warm solution of permanganate of potassa, not stronger than 1 to 4000. Under these mild graduated antiseptic measures, as a rule, much improvement will be produced. If, as so often happens, even when care and prudence are exercised, the posterior urethra becomes attacked, it may be well to employ the ordinary velvet-eyed catheter (using very small ones, 10 to 12 of French scale), and to inject some of the fluid into the posterior urethra, and then, withdrawing the eye of the instrument just outside the triangular ligament, to well irrigate the anterior urethra. This mild, carefully-applied, local medication reduces the acute inflammation, and in that way renders the tissues less susceptible to the action of the micro-organism; then as the treatment is carefully kept up the microbes die, since the condition of the tissues is not favourable to their nutrition. When the acute suppuration begins to subside the patient may be instructed to use injections by means of the ordinary penis syringe. Of course, the injections only medicate the anterior urethra, but there can be no doubt that some benefit is produced. The various preparations of zinc, lead, alum, thallin, and hydrastin may form the basis of these injections. In the early florid stage one treatment daily will be required, but with the onset of the terminable stage one every second day will in most cases suffice. As the inflammation begins to decline it is always well to administer one or more of the old antiblennorrhagics, which will still, as in the past, prove valuable adjuvant agents in hastening along the reparative process. With the decline of the inflammation a change can be observed by the examination of the urine, particularly that passed in the early morning, which is most important as a guide to subsequent treatment. In the acute and early declining stages of gonorrhoea the urine is opaque, and its deposit is almost wholly composed of pus-cells in some of which gonococci are

present. With the onset of the reparative stage the microscope shows the discharge to be composed of pus, gonococci, and immature epithelium. Experience shows that the most reliable and effective agent at this stage is the nitrate of silver. Argonin, argentamin, and protargol are new agents advocated to replace the silver nitrate, but it is yet too early to speak definitely of their places in our therapeutic armamentarium. When the symptoms of the patient and the microscopic appearances of the discharge indicate that the morbid process is about to decline, and this may be as early as the tenth or fourteenth day, or as late as the twentieth of treatment, it is our duty to begin the use of this invaluable agent. If only the anterior urethra is involved, we may use the reflux catheter, but if the totality of the canal has been attacked (as it so frequently is), the 10, 12, or 14 French velvet-eyed catheter should be employed. At first an irrigation of about 2 or 4 ounces of a warm solution of nitrate of silver, 1 to 10,000 or 8,000 may be employed once a day. When the effect is good, as shown by the comfort of the patient and the lessening in the quantity of the pus-cells and increase in the number of epithelial cells in the secretion, the strength of the solution may be increased. As a rule, in most of the favourable cases a solution of 1 to 2,000 is quite early reached and is well borne; then, as improvement occurs, the irrigations may be discontinued and injections of a few drops of solution of nitrate of silver (once a day or once every second day) 1 to 1,000, 500, and 250, may be thrown into the anterior urethra or into its totality, according to the extent to which it is involved.

Examination of the urine will, as the case progresses toward cure, show that pus gradually disappears; epithelial cells are at first abundant, but then they grow progressively less numerous until they disappear entirely. With the cessation of the process no tissue elements can be seen in the urine when examined under the microscope, and in a few days the little excess over the normal amount of mucus is lost and a cure is produced. In some cases it may be well to follow the silver-nitrate injections for a few times with solutions of sulphate of zinc and of alum.

In general, it may be stated as the law that as long as there is much free pus and no epithelium in the specimen the solutions should be of the weaker grades, but that as soon as epithelial cells begin to appear the time is ripe for progressive increase in the strength of these solutions. If this treatment is carefully carried out the integrity of the mucous membrane is restored and annoying relapses are not suffered from, and it goes without saying that stricture-formation is prevented. Then, again, it is unnecessary to use the antibleorrhagics so freely and constantly as we did in years gone by, and this is a material gain for the comfort of the patient.

Lastly, let me say a few words as to the length of time for a cure by the treatment just advocated. I am firmly convinced that if a man is fully cured of acute gonorrhœa in from four to six weeks he is a really lucky individual.—*Medical News*, December 10, 1898.

91.—TUBERCULOSIS OF THE BLADDER.

By JOHN J. McGRATH, M.D.,

Assistant Visiting Surgeon, Columbus Hospital.

[The following is taken from Dr. McGrath's paper :]

We may divide the cases of tuberculosis of the bladder into primary, localised tuberculosis of the bladder, cases in which the disease begins in and remains limited to that organ, and into secondary or complicated cases, those in which the bladder affection is secondary to or complicated by tuberculosis in some part of the genital tract or in the kidney. The disease is more common in men than in women, yet not very rare in the latter. It is a disease of early and middle adult life, occurring mostly between twenty and thirty-five years of age, although it may occur in children and in elderly persons. The bladder is usually diminished in size, often very much so; the walls are much thickened, and the mucous membrane is greatly congested. Ulcers are, as a rule, present, usually in the neighbourhood of the ureter or urethral orifices, or occupying the position of the trigone at the base; there are usually one or two large ulcers or a greater number of smaller ones. The mucous membrane usually presents a greater or less number of miliary tubercles studding its surface; thus the mucous membrane may be simply very markedly congested or ulcerated, or there may be present miliary tubercles in greater or less number. In secondary or complicated cases we find, in addition to the above, the prostate, seminal vesicles, epididymis, or testes, or one or both kidneys involved in the process. In both primary and secondary cases there are apt to be tuberculous lesions in other remote parts of the body—for example, in the lungs—and in doubtful cases these remote lesions should be carefully sought for. Sufferers from this disease are sometimes otherwise fairly healthy individuals, especially those in whom the disease is limited to the bladder and when the disease is in its early stage. Usually, however, tuberculous cystitis is complicated by tuberculous lesions elsewhere in the genito-urinary tract, and in many cases there are evidences of tuberculous lesions in more remote parts of the body.

The history of tuberculosis of the bladder is usually of some duration, varying from six months to several years, and no doubt the bladder may be the seat of a tuberculous inflammation for some time before any symptoms appear to indicate the presence of the disease. Frequency of micturition, gradually becoming more marked and associated with pain and occasionally followed by the discharge of a few drops of blood, is usually the first symptom. These signs become more and more marked as time goes on, until, in the advanced cases, the urine is voided every half-hour, or more frequently, night and day, accompanied by great pain and considerable hemorrhages, and the patients are unable to sleep or obtain any relief from their almost constant suffering. When this stage in the course of the disease is reached the condition of the patient is almost unendurable, and the general health becomes greatly impaired. If other active tuberculous foci are present, of course they add still further to the misery to the patient.

Rentier divides the course of the disease into two periods—the first up to the time that micturition becomes almost incessant, and the second from that time on. Examination with sound or catheter is usually accompanied by much pain and hemorrhage. The urine usually contains pus, blood, and detritus from the mucous membrane of the bladder, and may be either acid or alkaline. No doubt tubercle bacilli are usually present in the urine, but it is often very difficult to find them.

In making the diagnosis it is necessary to determine whether a given case is primary and limited to the bladder, or secondary and complicated by a similar process elsewhere in the genito-urinary tract. All cases of chronic cystitis that appear intractable and fail to respond to our ordinary methods of treatment should receive a thorough examination with the idea of tuberculosis in mind. It is just these cases of primary localised tuberculous cystitis that are most favourable for treatment, and they are the ones that most readily escape our recognition. We often have to make our diagnosis by excluding other conditions which give us very similar symptoms, and that is the case especially if we fail to discover bacilli in the urine. The symptoms of tuberculosis of the bladder often resemble those of stone, but cases of stone are easily recognised by the sound, and patients suffering from stone, when they remain quiet and recumbent, usually obtain a considerable amount of relief. Not so with tuberculous cystitis. The symptoms of tuberculous cystitis also resemble rather closely those of neoplasm. The cystoscope often gives us considerable help but not so much as one would expect at first thought. In the first place, the cystoscope is usually very painful to use in tuberculous cystitis and secondly the fluid in the bladder in

tuberculous cystitis is cloudy and bloody, and, although the bladder is well washed out before examination, the bleeding is apt to continue and thus obscure the view. In women the urethra may be dilated, and through it the examination of the bladder made with the finger. In cases of doubt, and they occur with the best diagnosticians, one should not delay too long with an exploratory suprapubic cystotomy, especially if the symptoms are pressing. Within the last few years cases of tuberculosis of the bladder have been treated, and with success, by making a suprapubic opening and draining the bladder, and this procedure seems to me, at least for most of the cases; probably all the primary cases, not only justifiable but proper. In the primary cases this operation offers a very good chance of complete cure; and even in the secondary or complicated cases the result, as evidenced by some of the cases reported by others, is often very satisfactory. Even when one is not certain of the diagnosis the operation will clear it up, and is still the best means of relieving similar symptoms due to other causes, as, for example, stone, tumour, foreign bodies, &c. Further, in late cases it is wise to operate to relieve the misery of the patient, even when there is no hope of curing the disease. The dangers from the operation itself are small. The operation should not be delayed too long, especially if there is no improvement under less radical methods. It is done with the patient preferably in the Trendelenburg posture; the tubes are introduced into the bladder and held fast to the edges of the wound with a silk stitch. The fistula should be left open and the bladder washed out daily with some mild antiseptic solution until the urine clears up, and this may take weeks or months, when, as a rule, the fistula closes spontaneously. Of course, one should attend to the general health by the use of proper diet, tonic, &c., both before and after the operation. A tuberculous lesion elsewhere—for example, in the lungs, the bones, &c.—is not, in most cases, a counter-indication to the operation, although in advanced cases of pulmonary tuberculosis, &c., the patient should not be operated upon unless his condition is unendurable, owing to the frequent and painful micturition and loss of sleep, &c., when operation may be resorted to as a palliative measure. In primary cases we have a good chance of cure by operating, especially early; and even in secondary cases, in which the original focus is in some of the genital organs—prostate, testes, &c.—the results are often very good. In those secondary cases in which the primary lesion is in the kidney the prognosis is but poor unless the process involves but one kidney, and this can be removed or drained, leaving the second kidney healthy.—*New York Medical Journal*, January 21, 1899.

92.—TWO RECENT CASES OF SUCCESSFUL OPERATION FOR IMPACTED STONE IN THE URETER.

By P. J. FREYER, M.A., M.D., M.Ch., Surgeon to
St. Peter's Hospital.

[Dr. Freyer first gives full details of the cases, from which the following is taken :]

Lieutenant D. had suffered off and on for 19 months from renal colic and hæmaturia. On August 1, 1898, the kidney was rapidly exposed through an oblique lumbar incision $4\frac{1}{2}$ inches long, and the fatty capsule opened. No stone was detected on feeling it all over. The kidney, which was much enlarged and congested, was stripped of its fatty capsule and brought out on to the loin through the wound. I felt it carefully all over, but could detect no stone. The kidney was then opened through the convex border by means of a scalpel, and my finger passed into the pelvis, a rush of urine taking place through the wound, and the kidney collapsing much in size. No stone could be found, though my finger passed easily into the calyces, which, with the pelvis, formed a large, smooth-walled cavity. I then passed a catheter down the ureter as far as four inches from the pelvis, where it was obstructed. A long silver probe was then passed, and a stone felt in the ureter at this point. The incision in the loin was at once extended downwards and inwards for four or five inches, and the peritoneum raised inwards from off the ureter by my fingers, till I could grasp the stone (which felt the size of a filbert), lying in the ureter between my finger and thumb. I made several attempts to push the stone upwards into the kidney, but it was too firmly impacted in the ureter, so the ureter was incised longitudinally over the stone, which was pushed through the wound by the point of my finger. A bougie was then passed into the bladder through the ureter from the pelvis. I did not suture the wound in the ureter because (1) suturing of the ureter when a stone is removed extra-peritoneally is a debateable proceeding; (2) the ureter was so narrow that suturing would probably cause contraction of the canal; and (3) though I could extract the stone with the limited incision already indicated, the successful suturing of the ureter at the bottom of a deep wound was impossible without a much more extended dissection. I contented myself, therefore, by placing a large drainage tube down to the opening in the ureter, along the back of the kidney, bringing the muscles together by buried silk sutures, and the superficial parts by silk-worm gut. The wound in the kidney was partially closed by two sutures, the middle portion being left open so that the urine might flow freely through the loin, and thus avoid tension on the ureter till the wound in it should have healed. Bloody urine was passed freely by the urethra in the evening, showing that the ureter was patent; and bloody urine by both loin and urethra for several days. On the third day I began to shorten the drainage tube daily, and this was completely removed on August 7. On August 8 the wound was firmly united, save in the track of the drainage tube. On August 9 urine ceased to flow by the loin. The patient made a rapid recovery, and is now in excellent health.

The second case occurred in a man, aged 53 years, who had attended the Hospital on and off for thirteen years for multiple urethral stricture, for which he had been operated on several times. He also had symptoms

of stone in the kidney. In 1895 his left kidney was explored with a negative result, and again in 1897. Under the impression that the symptoms might in large part be due to backward pressure, resulting from the stricture, which had again contracted so that a No. 6 bougie, English scale, was passed with difficulty, I performed internal urethrotomy on November 18, 1897, cutting three dense cartilaginous strictures up to 16 of the English scale. This operation, though it afforded a free flow for the passage of his urine, did not much diminish his other symptoms. In October, 1898, he began to complain of great irritability of the bladder, and on November 9, I cystoscoped him under an anæsthetic, and detected a long, narrow, rough, pencil-shaped stone projecting into the bladder from the right ureteral opening. The portion of stone projecting into the bladder appeared by the cystoscope to be about $\frac{3}{4}$ in. long, and dark grey in colour. My colleague, Mr. Reginald Harrison, and others had an excellent view of the stone. I at once introduced a lithotrite, and after three or four unsuccessful attempts, eventually caught the stone between the blades, pulled it out of the ureteral opening, crushed it, and removed the *debris* by the aspirator. The patient began to improve steadily in health. He now states that he is in better health than he has been for years. I believe the above to be a novel method by which a stone projecting into the bladder from the ureter may possibly sometimes be successfully removed.

[The author then makes the following remarks:]

I will, in conclusion, briefly refer to five other instances of stone impacted or encysted in the ureter, which have been operated on by me—four of these during my experience in India. In three, the stone was impacted at the ureteral orifice, projecting into the bladder and felt by the sound. One occurred in a female, two in males. In each instance an operation was undertaken, under the impression that I had to deal with an ordinary case of stone in the bladder, and in each case the stone was dislodged from its position by introducing the forefinger through the dilated urethra in the female, and through the ordinary perineal lithotomy wound in the males, scraping the orifice of the ureter by the finger nails, the stone being forced downwards and inwards by the hand placed on the groin, and then removed by the ordinary lithotomy forceps.

In the *British Medical Journal*, May 9, 1891, page 1005, I have given details of a boy, aged 15, from whom I removed, at two different sittings, by litholopaxy two separate stones, weighing respectively 757 and 581 grains, aggregating more than $3\frac{1}{4}$ ounces. After removing the first stone from the bladder, I found that there was a second lying in the lower part of the right ureter close to the bladder. The second stone was felt as a hard tumour in the loin, about three inches long, and could easily be felt in the ureter between a finger in the rectum and the hand on the groin. I determined to remove this stone by suprapubic cystotomy as soon as the patient should have recovered from the first operation, but on the fourth day the tumour in the groin suddenly disappeared, and a stone was felt

lying free in the bladder, and successfully removed by litholopaxy. Evidently this latter stone, lying in the ureter, rested on the stone located in the bladder; as soon as this support was removed the ureteral calculus was pushed into the bladder by the force of the accumulated urine behind it.

The fifth case is recorded in the "Medico-Chirurgical Transactions," vol. 81. It was that of an obscure cystic tumour of the bladder, which contained two calculi, weighing 41 grains, removed suprapubically. My explanation of the case was this—that the stones descending from the kidney were arrested at that portion of the ureter which passes obliquely through the bladder wall, and that, unable to escape owing to a contracted orifice, they bulged the bladder wall inwards, forming a smooth cystic tumour, which was recognised by the cystoscope, and successfully dealt with in the way indicated.—*Medical Press and Circular*, February 1, 1899.

93.—NEPHROTOMY.

Guyon delivered an able and interesting address on nephrotomy, which, he observed, should aim to destroy the smallest possible amount of the renal parenchyma, bleed as little as possible, and expose the maximum of renal tissue. This is best accomplished with a lumbar recto-curved or oblique incision. After having freed the organ from its adipose envelope, it is drawn out as much as possible and the pedicle compressed by an assistant. The organ is then opened with a long incision on its convex edge extending into the pelvis. By introducing a finger into the organ and palpating from the outside with the other hand a calculus could scarcely be overlooked, although lesions of miliary tuberculosis might escape observation in the cortic substance, and even a neoplasm, as in an instance related, in which the lesions seem insignificant, until the microscope revealed the structure of alveolar cancer in a small fragment of false membrane discovered, and nephrectomy confirmed the existence of a renal neoplasm which had escaped attention. He considers nephrotomy superior to pyelotomy for the removal of calculi, except in the one case when palpation demonstrates a regularly shaped, medium-sized calculus in the pelvis. The best incision for nephrostomy is the lumbar recto-curved or oblique, downward and outward. This incision at once reaches Henle's vertebro-costal ligament, useful in managing the pleura. After having incised the convex edge of the organ and explored the inside, the walls between the different divisions should be destroyed as much as possible, and to avoid purulent peripheral lesions and facilitate future operations, the two valves of the

renal tissue should be sutured to the lips of the parietal wound, as close to the integument as possible, thus evacuating and re-establishing the function of the kidney in case of anuria. He called attention to the remarkable tolerance of the kidney for this operation, with or without previous retention. Notwithstanding the free communication of the organ with the exterior and the drainage, infection does not invade the tissues. There is merely a slight sclerosis extending inward more or less from the edges of the wound. The renal tissue is not affected, and the urine of a nephrostomised kidney scarcely differs from normal. Nephrostomy seems the superior operation in most cases of calculous anuria, and the only operation in serious cases. Both kidneys are usually more or less affected even in simple primary lithiasis, and in most cases the other kidney is no longer working properly when the anuria appears. It may seem normal in some cases, but is still liable to have lesions of an aseptic nephritis which render it particularly sensitive to the inhibiting influence of a reflex emanating from the other kidney (Guyon's reno-renal reflex). Nephrostomy is far from the ideal conservative operation in uronephrosis. The cause should be removed if possible, with ureteral catheterism, nephrorrhaphy, ureterotomy, or ureteropyelostomy. But if the other kidney is destroyed, and it is indispensable to retain all of the renal parenchyma that has been spared, then nephrostomy is directly indicated. The advantages of nephrostomy in simple pyonephrosis are evident. The objection of the fistula has been shown to be unfounded, as in many cases it heals in a few months or even several years after the intervention, and the more readily the greater the destruction of the kidney. In certain cases the fistula can be prevented or healed by simple permanent ureteral catheterism, or by operations re-establishing the normal course of the urine. Secondary nephrectomy always offers a last resource when healing is evidently impossible and the secretion of the kidney has no longer any actual physiologic value. Nephrostomy is almost always preferable to interventions aiming to re-establish the normal course of the urine. These should be made later, after the nephrostomy, when the general and local conditions are improved. Guyon's experience with nephrostomy in tuberculous pyonephrosis has been unfavourable. The improvement is always transient. The fistula has always persisted, and no patient survived over two years. He prefers nephrectomy in these cases, if the other kidney is normal. The mortality of primary nephrectomy as published is 28 per cent., and of secondary nephrectomy 34 per cent. His experience has been sixteen recoveries out of seventeen primary nephrectomies for renal tuberculosis. Summarising his cases with those of Czerny, Bardenheur, Küster, Israel, Tuffier, and Routier, he has

a mortality of 10 per cent., while the mortality was 17 per cent. in 84 nephrostomies for renal tuberculosis. The latter operation is therefore only indicated when there are other advanced tuberculous lesions which would render nephrectomy impossible. In such cases it is well to take advantage of the undoubted palliative relief of the permanent opening of the kidney, although after several weeks or months, the phenomena return as before. Radiography has not fulfilled the hopes of its application to the kidneys.—*From report of the French Surgical Congress in the Journal of the American Medical Association, December 17, 1898.*

94.—A CASE OF RENAL SARCOMA SUCCESSFULLY REMOVED BY LUMBAR NEPHRECTOMY.

By THOMAS JONES, B.S. Lond., F.R.C.S. Eng.,
Professor of Surgery, Owens College, Manchester; and
T. N. KELYNACK, M.D., M.R.C.P., Pathologist,
Manchester Royal Infirmary.

The pathological researches of recent years have thrown considerable light on the varying structure assumed by the so-called "malignant" growths of the kidney, and wide interest has been awakened in the practical aspects of the condition by the records of a considerable number of cases in which nephrectomy has been performed, not only successfully as regards the operation, but in effectually removing a fatally-tending growth without any recurrence. These growths differ greatly in "malignancy," and there can be no doubt our knowledge will become more definite and precise in so far as we, to use Mr. Malcolm's words, "look for guidance in treatment to a careful study of clinical histories, and of the microscopical structure of the specimens removed." For the present it seems most desirable that every renal growth removed should be submitted to careful pathological investigation and the salient features of the case reported. We therefore make no apology for briefly placing the following case on record:—

Thomas S., aged 50 years, married, and a sawyer by trade, was admitted to the Manchester Royal Infirmary on October 29, 1898. Had always enjoyed good health with the exception of an attack of "inflammation of the kidneys" eight years ago, which necessitated absence from work for two weeks. Had been somewhat intemperate. No history of "malignancy" in the family. Eighteen months ago "twisted" himself while carrying a plank, which led to considerable hæmaturia, blood continuing to be present in the urine for several days. For the past three months he had experienced much pain in the left side of the back, which was put down to "lumbago." At first the pain was of

a dull, aching character, unassociated with any sickness and not continuous. Later it became more severe and practically permanent, and blood made its appearance in the urine. The practitioner in attendance on the case, recently, on two occasions, found long, thin clots of blood in the urine looking as though they had been moulded in the ureter. On admission to hospital the patient appeared to be a fairly nourished, robust-looking working man. The urine was neutral in reaction, sp. gr. 1012, and contained blood and albumin. Examination, under an anæsthetic, revealed enlargement of the left kidney, with a distinct nodular mass at its lower part. The kidney was exposed by the lumbar route, and found to be the seat of a distinct growth, which, however, seemed localised to the organ. The whole kidney was removed. The renal vessels were first clamped, then tied, a drainage tube inserted, and gauze packed around. The patient made an uninterrupted recovery. During the first twenty-four hours 10 oz. of urine were passed; on the second day, 20 oz.; on the third day, 32 oz.; on the fourth day, 34 oz.; from thence it continued to vary from 40 to 50 oz. daily. Dr. Richmond, the patient's medical attendant, reports on 7th March that "I have on repeated occasions examined his urine, but so far it has been quite free from any albumin or blood, and the quantity, so far as I can gather, is about normal."

Pathological Characters.—Macroscopic.—The organ weighed 7 oz. It was $4\frac{1}{2}$ in. long and $2\frac{1}{2}$ in. wide. The lower, $2\frac{1}{4}$ in., was involved by diffuse growth. The greater part was of a more or less solid nature, but with slight tendency to cystic softening in the centre. In colour it was pinkish yellow and yellowish white, but also with extensive reddish brown areas, due to extreme vascularity. The growth extended quite up to the capsule, which was elevated into irregular nodules, but the capsule itself did not appear to be penetrated. At its upper part the neoplasm gradually merged into the normal-looking renal tissue.

Microscopic.—Sections of the growth were made at its most active part, where it was invading the more or less normal kidney substance. The tumour consisted of embryonic connective tissue cells, separated and surrounded by newly-formed fibrous tissue-like elements. The cells varied somewhat in size and form. Many were round or slightly oval, and staining deeply with hæmatin. Others were elongated and distinctly spindle-shaped. In some parts the cells were aggregated into dense masses, while in other areas they were separated by strands of fine embryonic connective tissue, which formed a delicate stroma in which the cells appeared in somewhat alveolated form. In extensive districts the supporting tissue had undergone myxomatous change, and in some parts even the cells seemed to be participating. These areas presented a curious honeycomb-like appearance, with the cells lying in many instances quite free in the spaces. The greater part of the growth stained readily. The vessels appeared as mere spaces lying in the tumour tissue, with no distinct walls. Some parts of the growth were extremely vascular, the blood spaces

being large and irregular. The kidney tissue in the vicinity of the growth was very vascular, the epithelium swollen, and in a condition of early fatty degeneration. Between the tubules and around the glomeruli was much fibrous tissue.—*Edinburgh Medical Journal*, May, 1899.

95.—TUBERCULOSIS OF THE MAMMARY GLAND.

By Drs. A. E. HALSTEAD and E. R. LE COUNT,
of Chicago.

[The following is reproduced from this important paper:]

Symptomatology and Clinical Course.—In the beginning mammary tuberculosis may not present any recognisable symptoms. As the disease progresses the symptoms vary according to the form which the tubercular lesion assumes. In the disseminated nodular or discrete type of the disease the nodules may be either single or multiple. The breast generally preserves its normal size and appearance. In only a few cases is the volume appreciably augmented or its contour changed. The skin covering the gland is normal in appearance, not adherent to the intra-glandular mass, and without any fistulæ opening on its surface. On palpation we find one or more nodules which are movable, hard, and only slightly painful on pressure. Their outline is, as a rule, distinct, though at times they may be ill-defined and apparently merge into the surrounding normal gland tissue. These slowly increase in size, soften, and undergo caseous degeneration or suppuration, and in the end form fistulæ, from which is discharged tubercular pus. The nodules may, before fistulæ are established, so enlarge that one or more may coalesce, forming tumours of considerable size, which ultimately terminate by discharging their contents through fistulous openings. In cases where there are a number of nodules they are usually distributed throughout the gland. When a single nodule is present, it is nearly always formed in the upper and outer quadrant of the organ. Delbet found that in eighteen cases, where the exact seat of the tumour was noted, in ten it was situated in the upper and outer portion of the breast. In two it was nearly in the centre.

The most characteristic features of the disseminated nodular form of this disease are the extreme chronicity of the process and its painless and insidious development. In many cases the nodules remain stationary for years without causing any subjective symptoms that cause the patient to seek medical advice. In the end, however, nearly all become slightly painful, gradually enlarge, and undergo the degenerative changes common to all

forms of tubercular disease. When softening has taken place, before the cavities coalesce, fluctuation may be detected. In most cases, however, the cavities are so small that it is impossible to elicit this sign. The confluent form of the mammary gland tuberculosis is characterised by a more acute onset, greater pain, and rapid enlargement of the breast. On palpation we find a tumour, usually single, varying in size from that of a walnut to an orange, of irregular outline, nodular, and fluctuating. The gland is generally uniformly enlarged. The tumour, if single, is usually found in the outer half. This type of the disease is more common than the disseminated nodular form. In many cases fistulæ form early, and it is in this condition that the surgeon frequently first sees the patient. The initial symptoms of the disease may vary in individual cases from the typical form, as described.

In about 75 per cent. of the cases reported there was a tuberculous adenopathy affecting the axillary glands on the same side as the breast lesion. In many cases (eight in thirty-seven cases collected by Berchold) the disease was primary in the axillary glands and secondarily involved the mammary gland. This is regarded by Verneuil as the usual method of infection of the breast. However, it may be said that in many cases the primary focus in the breast escapes notice until after the axillary glands are considerably involved. Again, the disease in the axillary glands, even when secondary, usually advances with greater rapidity than that in the mammary gland, so that while the axillary glands may be broken down and suppurating the nodule in the breast may remain stationary for a considerable length of time. The glands distributed along the lower border of the great pectoral muscle, as well as those above the clavicle, are at times involved, occasionally primarily, though usually secondarily. In some cases in which the axillary glands are involved the tumour in the breast has been found joined to the axillary tumour by a band of indurated tissue which could be distinctly palpated. When this is present it is regarded as a characteristic sign of mammary tuberculosis. As in other forms of tuberculosis, softening and suppuration with the formation of fistulæ is the natural and frequent termination of all types of mammary tuberculosis. Spontaneous healing of tubercular foci in the gland before suppuration takes place seldom, if ever, occurs. After the cavities have discharged their contents it is only in exceptional cases that healing takes place. Usually new foci of inflammation are established, and frequently neighbouring structures are involved before complete cicatrization of the old is accomplished.

In all cases a microscopic examination should be made, and the diagnosis based only upon the histologic structure of the

tumour or upon the presence of tubercle bacilli. It is only in this way that any early diagnosis can be made and rational treatment instituted.

Treatment.—In disseminated nodular or confluent tuberculosis of the mammary gland early removal of the breast and the axillary gland on the same side offers the greatest hope for a speedy and permanent cure. Nothing short of this can assure an eradication of the disease. In all cases of primary mammary tuberculosis the prognosis, after such an operation, is excellent. In secondary tuberculosis of the gland the prognosis, of course, depends upon the seat and extent of the primary lesion. In the discrete nodular form, where the disease is limited to one focus of inflammation, the remaining portion of the gland appearing normal, the removal of the nodule together with the gland tissue immediately surrounding it will be sufficient, providing the patient can be kept under observation for some time after the operation. In those rare cases of cold abscess of the breast not associated with tuberculosis of the axillary glands, or in those in which a radical operation is contra-indicated, aspiration of the abscess and injection of iodoform emulsion may be employed.—*Annals of Surgery, December, 1898.*

AFFECTIONS OF THE EYE AND EAR.

96.—PROTARGOL AND ARGONIN IN PURULENT OPHTHALMIA.

By Dr. EDWARD S. PECK.

At a recent meeting of the Section of Pediatrics of the New York Academy of Medicine, the author read a paper on the Advantages of Protargol and Argonin in the Treatment of Purulent Ophthalmia in Infants (*Phil. Med. Jour.*, December 17, 1898). He said that in the cases treated with these newer salts of silver there had been less ulceration of the cornea, with iris protrusion and imprisonment; the gonococci had disappeared in from two to four weeks, or more quickly than by the older method; there had been an earlier disappearance of the secretion and control of the inflammation; the restoration of the injured cornea and conjunctiva had been more prompt, and the patient had suffered much less. The most effective strength for the argonin solution is 3 per cent., and the solution is best made by placing in a flask ten parts of cold water, adding one part of argonin, and shaking vigorously, after which sufficient boiling water is added to make up the desired strength.

It is then strained through gauze. In making the solution of protargol it is best to mix the salt with a little water and glycerine to a paste, and then add sufficient lukewarm water to make a 0.25 per cent. to 2 per cent. solution. The plan of treatment recommended by Peck is as follows:—If only one eye be affected, seal up the healthy one, taking care to inspect it every second day. Ice-pledgets are to be continuously applied to the inflamed eye, night and day, until there is positive evidence of diminution in the secretion—a period varying from a few days to two or three weeks. Meanwhile, the eyeball and conjunctival sac are very frequently irrigated with a saturated solution of boric acid. With a large pipette, a 0.5 or 1 per cent. solution of protargol is carried rather forcibly over the whole eye four or more times daily until the secretion diminishes, when a 2 per cent. solution may be used at longer intervals. The disease should be brought under control by such treatment in the course of two or three weeks. The secretion should be examined for gonococci on alternate days, and the eye not considered safe until none of these organisms have been found for a full week. Protargol lends itself readily to the needs of the ophthalmologist, as it is unaffected by being combined with sodium chloride, cocaine, atropine, eserine, &c. It is not decomposed by the albuminous substances found in the secretions from the mucous membranes, and it is the only known silver compound which is not precipitated by dilute hydrochloric acid. Protargol is a silver proteid compound, occurring as a yellowish powder, which is readily soluble in cold or hot water. Both the powder and the solution are stable. Silver nitrate contains 6.35 per cent. of silver, and in this respect it holds an intermediate position between argonin and protargol. The last-mentioned is the richest in metallic silver. Peck said he thought protargol might advantageously be substituted for silver nitrate in the Credé method of prophylaxis against ophthalmia neonatorum. He had put a 10 per cent. solution of protargol in his own eye, and had found it very much less irritating than a 0.5 per cent. solution of cocaine.—*British Medical Journal Epitome*, January 14, 1899.

97.—OPHTHALMOSCOPIC EXAMINATION IN THE DIAGNOSIS OF INTRACRANIAL COMPLICATIONS OF SUPPURATIVE OTITIS.

Gradenigo (*Ann. des Mal. de l'Or.*, December, 1898) has examined the reports of some 630 cases of this kind, and regrets to find how small is the percentage in which an ophthalmoscopic

examination is recorded, though such examination seems to have been more commonly made during the last two years. It is needless to point out that the symptoms of intracranial complication are very frequently indecisive, and no one can afford in a doubtful case to dispense with any indications which the fundus oculi may present. The author does not hesitate to affirm, as the result of his personal experience, that the ocular lesion is sometimes the only pathognomonic sign of the commencement of some intracranial extension of aural disease, a sign all the more valuable as it is met with frequently even in that class of complication which must be considered as the expression of the primary invasion of inflammation from the ear to the cranial cavity—namely, extradural abscess. The ocular lesions described vary from simple congestion of the papilla to stasis and optic neuritis. They are, as a rule, bilateral, but generally more marked on the affected side. They rapidly pass off when the cranial mischief has been relieved, and, indeed, this fact furnishes the best evidence of the success of an operation. The author maintains that papillitis is never observed in cases of suppuration confined to the middle ear and mastoid, and that it is a certain indication of intracranial invasion, an opinion which will not be accepted in all quarters. On the other hand, it is by no means a constant sign even in any special category of cases, and it is only observed in a certain percentage of instances, and at certain periods of the disease. At present we can only affirm that a relationship of cause and effect exists between the cranial disease and the papillitis; what is the nature of the exact etiological tie is a question which has still to be answered. Of the 635 cases (including 74 personal cases), an ophthalmoscopic report is forthcoming in 172. Papillitis is noted as present in 90 cases, or 52·3 per cent. of those examined:—(1) Uncomplicated extradural abscess (for the most part about the sinus): 16 cases out of 39, or 41 per cent., showed papillitis. (2) Septic thrombosis of sinus, simple or complicated with extradural pus: 31 cases out of 52, or 59·6 per cent. (3) Cerebral abscess, simple or complicated with sinus thrombosis: 18 cases out of 34, or 57·9 per cent. (4) Cerebellar abscess, simple or complicated with sinus thrombosis: 12 cases out of 20, or 60 per cent. (5) Lepto-meningitis, simple or complicated with sinus thrombosis: 13 cases out of 27, or 48·9 per cent. (6) Giving a total of 90 cases out of 172, or 52·3 per cent.

Papillitis is therefore most frequent in connection with cerebellar abscess and septic thrombosis (about 60 per cent.), less frequent in cerebral abscess and lepto-meningitis, and least so in extradural abscess (41 per cent.). Two sources of error must be borne in mind in reading these statistics. The total

number is not a very large one, and some smaller series have given somewhat different results. Again, it is impossible to determine in a complicated case whether the papillitis is caused, to take an instance, by the sinus thrombosis or coincident extradural abscess in a given case, for we know that either is capable of causing the phenomenon. Two facts of importance, however, stand out clear from these figures:—(1) Papillitis is present in about half of the cases taken together. (2) Papillitis occurs in a large minority of cases of extradural suppuration, a condition which, as a rule, gives rise to no very clear signs or symptoms, and of which the papillitis is the sole diagnostic manifestation in many cases. At present we are in the dark as to the exact mechanism of the ocular complication. In nearly half of the cases, and among them some of the most marked and serious cases, the sign is absent, while it appears in a prominent degree in some cases of the slightest gravity. Optic papillitis furnishes us with no information as to the seat or character of the intracranial disease. The disappearance, however, of the phenomenon is a certain indication of the efficacious result of operative interference. The author calls for a routine examination of the fundus in all cases of acute and chronic middle-ear suppuration. In the great majority the result will be negative; but here and there a positive result will permit of an early diagnosis, and the application of successful treatment. —*Mr. Waggett's Abstract in Treatment, February 28, 1899.*

98.—ALBUMINURIC RETINITIS, WITH SPECIAL REFERENCE TO ITS OCCURRENCE DURING PREGNANCY.

By JAMES FRANCIS McCaw, M.D.,

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County Orphan Asylum, Brooklyn, New York.

[From Dr. McCaw's paper.]

In looking over the history and studying the case reported in this paper, one is immediately impressed with the typical character of it. To my mind the albuminuric retinitis began some time prior to the fifth month of gestation, and her symptoms at that time were indicative of congestion, and exudative changes in the retinal tissue, which, as we see by the subsequent history and examination, were followed later by fatty degeneration and atrophy. It is my opinion that in those cases in which

there is the slightest suspicion of retinal changes an ophthalmoscopic examination should be made as soon as possible ; for it is of vital importance to your patient whether, after her delivery (if she is carried through the period of gestation), she is left with $\frac{1}{2}$ or $\frac{1}{6}$ vision or is totally blind. The general practitioner is very apt to attach too little importance to the premonitory symptoms of retinitis albuminurica and pass them over lightly, without knowing the real condition of the fundus oculi, which is of paramount importance in determining whether gestation shall be allowed to progress. We cannot attach too much importance to this trouble. It is a treacherous disease, making irreparable inroads into the retinal tissue, while we are waiting for further developments.

Here was a woman who, prior to her pregnant state, was apparently in perfect health and with good sight, so far as could be determined from her previous history. Now we find her sight greatly diminished, kidneys in a state of chronic inflammation, and a condition in the fundus oculi which indicates an unfavourable prognosis. Albuminuria is one of the serious complications of the puerperal state, and according to a number of observers, is found in about 6 per cent. of the cases. From the obstetric side the importance of the renal complication is associated with the liability of such cases to eclampsia and its exceedingly bad results. Fürbringer says that about one-fourth of the pregnant women suffering from albuminuria are attacked by eclampsia, with a mortality of about 30 per cent. The seriousness of the renal complication is increased by the failure of the sight, which is present in a certain number of these cases. It has been shown that retinitis associated with chronic Bright's disease is indicative of a very limited period of life, frequently only months, while two years is considered the maximum. With the albuminuria of pregnancy the retinitis is of less grave import in this respect, but as far as vision is concerned it is attended with very serious results. Culbertson collected the cases of albuminuric retinitis, and finds that 23.33 per cent. have terminated in blindness, 58.25 per cent. have resulted in only partial recovery of sight, and only 18.54 per cent. have recovered. Silex, in his cases, found that about 18 per cent. were nearly blind, 42 per cent. recovered vision about $\frac{1}{6}$, and 40 per cent. less than that. The bad results in these cases are due to optic atrophy, choroido-retinitis, and detachment of the retina. The latter is liable to come on late in the disease. Retinitis may show itself at almost any period of pregnancy, but it is uncommon during the first three months. The changes which take place in the retina are inflammatory and degenerative. In the earliest stage of the disease, upon ophthalmoscopic examination one may recognise

more or less hyperæmia of the papilla, slight increase in the calibre of the veins, diminution in the size of the arteries, diffuse opacity of the retina, with hemorrhagic areas, and the formation of yellowish-white patches of exudate, which at first are confined to the region of the posterior pole. Later white patches of fatty degenerated exudate make their appearance in the retina, and about the same time some swelling of the papilla occurs. These white patches are for the most part found in the region of the macula, where they are arranged in a star-shaped form radiating from the fovea centralis. Scattered here and there over the fundus may be seen other patches of degeneration, which may become confluent, and thus form extensive atrophic areas. The retina is thickened by exudation and often unevenly so, which is shown by focussing on the retinal vessels, and seeing them appear and disappear beneath these thickened masses. The hemorrhagic areas may increase, and in some cases the hemorrhages are so extensive as to give rise to detachment of the retina. The degree of blindness produced by retinitis albuminurica varies very much, and as a rule depends upon the extent of the pathological changes at the macular region, but cases have been reported in which blindness or great impairment of sight has been present with absence of ophthalmoscopic signs, but these are very rare. The gravity of the retinal affection, as shown by the changes in the fundus, is not always commensurate with the defective vision complained of; for this reason it is advisable that pregnant women with albuminuria should undergo ophthalmoscopic examination at frequent intervals. Most of the careful observers have found that with the termination of gestation improvement of sight is apparent in a few days, the amount of improvement depending upon the extent to which the process has been allowed to go. Furthermore, it has been shown that a patient who has once suffered in this way is much more liable to be affected in the same manner during her subsequent pregnancies, and predisposed to more marked changes in the retina, with greater impairment of vision. In dealing with these cases one has to draw a distinction between those in which the retinal process comes on early, and those in which it appears only toward the end of pregnancy. In the latter case the time in which the process has to develop is limited, and it is thought that vision is less affected than in those cases in which the retinitis appears early.

From the foregoing it would appear that the following deductions are warranted:—(1) In all cases in which retinitis appears before the sixth month of gestation, emptying of the uterus should be recommended. (2) Cases occurring after that

period should be judged according to the amount and severity of the retinitis and the rapidity of progress. (3) Cases in which retinitis has shown itself in a previous pregnancy should be carefully watched for eye and urine changes, for in these cases the most serious results are apt to follow.—*Medical Record*, January 28, 1899.

99.—THE PROGRESS OF OTOLOGY.

By M. D. LEDERMAN, M.D., New York, Assistant Aural Surgeon,
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[From Dr. Lederman's paper:]

To-day we recognise the importance of early and liberal incisions through the drum membrane in assisting Nature to accomplish its purpose. Under proper antiseptic precautions such assistance frequently prevents suppuration in catarrhal disease of the middle ear. The dry method in the after-treatment of such cases is advocated by a number of observers. A strip of antiseptic gauze introduced into the canal acts as a serviceable drain. When the aural discharge is copious it is necessary to resort to gentle douching with warmed antiseptic solutions. In chronic catarrhal diseases of the middle ear, free aeration of this region, together with proper ventilation of the Eustachian tube, must exist before definite results can be obtained. The influence of nasal and pharyngeal disease upon ear affections is now thoroughly appreciated by workers in this field of medicine. Adenoid vegetations in the pharyngeal vault are known to be the direct excitant in suppurative conditions, especially in early life. Free nasal respiration augments the Eustachian tube's function, and any obstruction to the circulation of air in these channels must necessarily act as an incentive to aural disturbance. Politzer's air douche and the Eustachian catheter maintain their usefulness in the treatment of middle ear affections. Delstanche's masseur, combined with the Siegel otoscope form a valuable combination for the relief of ankylosis of the ossicular chain. When employed in this manner ocular observations can readily be made, thus avoiding traumatism of the parts.

For some years the writer has found undoubted improvement in some forms of chronic catarrhal otitis, from the use of medicated oils, sprayed through the Eustachian catheter and then forced into the middle chamber by compressed air. In these solutions benzoinol was used as the "base" on account of its bland quality. The "return catheter" did not prove as

serviceable as the ordinary hard rubber instrument. Knapp has called attention to the importance of the functional examination of the ear. In ascertaining the acuteness of hearing, he has found the human voice the best test. The tuning fork is of great value in determining the range of audition. Bezold's continuous tone series is a valuable apparatus of this kind. As yet no therapeutic discovery has been offered as a panacea for persistent tinnitus. This distressing symptom frequently baffles our earnest efforts. When the tinnitus is due to circulatory disturbances some benefit may be obtained from the internal administration of cardiac sedatives. Thyroid extract has been recommended by some and found wanting by others. Thiosinamine (Merck's) has been suggested in cases of tinnitus where inflammatory products restrict the movement of the ossicles. The supra-renal capsule has shown marked contractile properties upon erectile tissue, especially in nasal congestions when applied locally or when taken internally. If ringing in the ears is due to an engorged state of the vascular apparatus, this remedy will no doubt prove of benefit.

Various surgical methods are offered in the hope of arresting this harassing symptom. Incision along the posterior border of the malleus, with the introduction of a blunt hook through the opening, and repeated traction upon the malleus handle has been attempted by some with success. Mobilisation of the stapes, together with removal of the incus and malleus, is recommended by other aurists. It is impossible to promise a cure by such treatment, for recorded cases prove that the tinnitus not only returned but actually became worse after such interference. Among the remedies regularly employed to overcome suppurative conditions, boracic acid still holds a prominent place. Antinosine, the sodium salt of nosophen, is recommended as a harmless, non-irritating, and powerful antiseptic. Peroxide of hydrogen has proven itself an excellent pus destroyer. Formalin in weak solutions is also efficacious. Tri-chloroacetic acid has been used with good results in stimulating the edges of old perforations of the membrana tympani. In mastoid involvement early operation is now universally endorsed. When palliative measures have not given the desired result within forty-eight hours, surgical principles should be put into effect. If suspicious of mastoid disease, there is no reason for postponing the radical operation. Delayed action frequently results in extended invasion, which often ends seriously.

In the after-treatment of mastoid disease we must be influenced by the condition of the wound. When feasible, we should employ a dry dressing, thus avoiding an excess of moisture, which tends to generate unhealthy granulation tissue. Of late I have used nosophen as a dusting powder and have

found it very satisfactory. Have observed evidences of the powder in the mastoid wound five days after the dressing with no signs of retarded healing. Nosophen gauze may also be substituted for iodoform gauze with good effect. Our foreign *confrères* laud the radical operation in persistent suppuration of the middle ear. Some close the mastoid opening by primary suture, while others prefer to treat the disease by keeping an open post-auricular wound. When active symptoms cease they close the mastoid opening by plastic ingenuity. It is true that a fistula behind the ear is a disfigurement, but if a life is at stake no chances must be taken on account of domestic reasons. The good results reported by such observers should certainly stimulate us in treating this ailment in a similar manner. Though Stacke's method is not free from complications, cautiousness will materially aid in avoiding serious consequences. Facial paralysis does occur when least expected, but time and electricity will accomplish much in bringing back lost function. Milligan also advocates early and more frequent resort to antrectomy in chronic suppurative otitis, which have resisted careful treatment for two months. The presence of an oedematous swelling of the posterior-superior meatal wall, "the dip," is frequently the indication for opening the mastoid. Persistency of offensive discharge, and its appearance immediately after the middle ear has been cleansed, demonstrates the existence of a pocket of pus in the adjoining cavities. The surface temperature of the skin over the posterior wall of the meatus is a point of some diagnostic value in mastoid empyema. If disease exists the temperature at this site is somewhat higher than at a corresponding area over the anterior wall.

Sinus thrombosis has received much attention during the past few years. Operations upon this channel are becoming more numerous and more successful. Timidity is gradually becoming a thing of the past, and free dissection of diseased areas is now boldly made. Whiting's practical observations upon this affection are valuable contributions. The aurist has to deal with the infectious thrombus, which is due to the presence of chronic suppurative ear disease.

The diagnosis of an existing thrombus of the sigmoid sinus is not easily made. Pain, usually radiating from the ear and extending over the side of the head, with œdema of the mastoid and occipital region are significant local indications. Chills, high temperature, and malaises are systemic symptoms most commonly observed. Pulsation of the sinus has no diagnostic value. In operating upon sinus cases it is considered best to uncover the sinus at the knee and descending portion. This may be done with the chisel and rougeur forceps. The mastoid

antrum should always be opened, as infection spreads from this cavity. The hypodermic needle is of service in locating the thrombus. Ligation of the jugular vein in these cases is an important element. Where the obstruction does not extend below the jugular bulb, we may not be called upon to tie the vessel. If, however, we are not successful in re-establishing the circulation from below the bulb, Whiting states that it is the operator's imperative duty to ligate the vein immediately. Where toxic symptoms are pronounced, or where metastases are already present, authorities agree that it is necessary to tie the vein as a preliminary step in opening the sinus. When the jugular has been ligated in two places the intervening portion should be resected, as the neck wound heals more rapid and satisfactory, and the liability of suppuration is much less. Statistics show that in sinus operations, where simultaneous ligation of the jugular has been performed, the percentage of recoveries is greater. Labyrinthine deafness is still refractory to our present treatment. In some of these dubious cases, pilocarpin and strychnia, together with applications of electricity, have given some improvement. Traumatic involvement of the inner ear is not as serious as a systemic invasion. Hypodermic medication is recommended in specific disease of the internal ear.—*Journal of Laryngology, January, 1899.*

100.—A NEW METHOD OF AURICULAR AUSCULTATION FOR THE DIAGNOSIS OF DEEP-SEATED DISEASE OF THE MASTOID.

Ostino (*Ann. des Mal. de l'Oreille*, March, 1899) writes an interesting paper on this subject based on clinical experience and experiment on the cadaver. The method adopted is a modification of that devised by Okuneff, which consists essentially in the comparison of the sounds conducted to the ear of the observer through auscultating tubes applied to the healthy and the suspected mastoid, when a vibrating tuning-fork is held to the vertex or forehead in the middle line. According to Okuneff, the sound is conducted less well by the diseased mastoid. Ostino's modification of the method consists in the simultaneous use of two auscultating tubes. A source of error due to variations in the vibrations of the fork is thus eliminated, and the comparison between the two sides is made by means of the apparent lateralisation of the sound as it reaches the observer. When the two sides are healthy and no marked cranial asymmetry exists, no such lateralisation occurs. Like many other observers,

Ostino finds that his results by no means tally with those obtained by Okuneff, and in a number of his cases the sound of the fork was conducted more clearly through the diseased mastoid. The results may be readily explained by the well-known physical law that sounds are conducted better through a vessel filled with fluid than one containing air, while it is obvious, on the other hand, that bone is a better conductor of sound than is a cushion of soft tissue. These principles are exemplified by the following experiments:—(1) In a cadaver an injection-cedema was made over one mastoid. The sound was lateralised to the non-injected side, but on firm pressure of the auscultating tube the conduction was equal on the two sides. (2) The cortex of the mastoid was removed in a cadaver, the cells were filled with collodia, and the bone and overlying tissues replaced. Lateralisation of sound to the operated side. (3) A case where the antrum remained freely open after an operation for cholesteatoma. Lateralisation to the healthy side while the wound remained open, but to the operated side when the cavity was plugged with wet gauze. (4) A case of chronic otitis in which Schrapnell's membrane and the ossicles were absent, and the aditus ad antrum dilated. Lateralisation to the healthy side, but to the affected side when the perforation was packed with wet gauze.

The following three cases bear out the conclusions drawn from the experiments: (1) Acute mastoiditis. Lateralisation of sound to the affected side. At the operation: Absence of tumefaction of the soft parts over the antrum. The antrum large, deeply seated, and filled with granulations and pus. (2) Acute mastoiditis and extradural abscess. Lateralisation to the healthy side. At the operation: Much tumefaction of the overlying soft parts with a large subperiosteal abscess. Extradural abscess limited to the posterior portion of the mastoid. (3) Acute mastoiditis. Lateralisation to the affected side. At the operation: A large subperiosteal abscess directly communicating by an aperture as large as a 5 centime piece with a very large cavity in the mastoid filled with granulations and pus.

From these and some dozen other cases the author concludes as follows: (1) Sound is lateralised to the affected side when the soft parts are not infiltrated, and when the air-cavities are filled with pus or granulations. The phenomenon is more striking when the pus reaches the dura mater or sinus, or when the antrum communicates freely with a large subperiosteal abscess. (2) The least infiltration of the soft parts may cause lateralisation to the sound side. (3) Hyperostosis of the mastoid does not cause lateralisation. As matters of practical detail the author advises the use of a fork giving 256 vibrations a second. A Wilde's aural speculum, 16 m.m. in diameter at the large end,

forms a good terminal for application to the mastoid over the site of the antrum. Pressure must be exactly equal on the two sides, and the two olives must be inserted the same distance into the observer's ears. The tubes should be at least 60 c.m. in length. The author considers that the method will be of the greatest value in cases of suspected extradural abscess, and in those cases of middle-ear disease in which pain persists after the ear itself seems to be completely cured.—*Mr. Ernest Waggett's Abstract in Treatment, April 27, 1899.*

101.—THE IMPORTANCE OF THE EARLY DETECTION AND TREATMENT OF SUPPURATION IN THE TYMPANUM AND MASTOID IN ACUTE OTITIS MEDIA.

By HUGH EDWARD JONES, M.R.C.S., L.R.C.P.,
Honorary Assistant Surgeon, Liverpool Eye and Ear Infirmary.

[The following is taken from Mr. Jones' paper :]

I must ask you to consider the stages of acute otitis media ; the point at which it becomes suppurative ; the conditions which lead to involvement of the antrum and mastoid cells, and which convert an acute case into a chronic one. (1) During the first stage, *i.e.*, before the membrana tympani has perforated, the fluid within the ear is serous or sero-sanguineous ; and it is a familiar fact to every otologist that the inflammation may pass off and the fluid become absorbed without any further development. Even at this stage, however, it is probable that the attic and the mastoid antrum to some extent participate, for there is almost always a certain amount of tenderness on pressure over this region. The local treatment consists in the application of leeches below or in front of the ear and cold Leiter's coil, and the rendering of the external canal as far as possible aseptic. For this purpose I am in the habit of using glycerine of carbolic acid and bicarbonate of soda—the latter helping to loosen the epithelium—followed by a plug of antiseptic wool or gauze. So long as the pain is not severe, or is relieved by the measures enumerated, and so long as there are no indications of pus formation within the tympanum, it is advisable not to perform paracentesis of the membrana tympani. The growth of microbes appears to be retarded so long as the membrana tympani remains intact, but as soon as it ruptures, organisms are multiplied at an enormous rate, and a variety of cocci appear which were not there before.

(2) But once pus begins to be formed within the tympanum, if the membrane has not already ruptured, paracentesis must be performed, the pus blown out or aspirated, and suitable antiseptic measures resorted to. The beneficial effect of this treatment is often remarkable. In children, the temperature, which has run up to 104° F., comes down at once, and other symptoms, which often closely resemble commencing meningitis, disappear. All these cases, notwithstanding the fact that resolution appears to have taken place, should be kept under observation for several weeks, for one never knows what may not be brewing, and relapses, with grave complication, are not uncommon.

(3) And now I come to the crux of the whole question. There is abundant authority for saying that the accessory cavities of the tympanum in the majority of cases share in the inflammatory process, and that the antrum and contributory cells account for the greater part of the discharge, but that in these cavities, as in the tympanum, "resolution" often takes place. If, however, the attic or antrum become cut off from the tympanum, or the contributory cells are cut off from the antrum, so that the inflammatory products do not escape, acute constitutional disturbance will follow, and if an operation is not soon undertaken, the bony walls of these cavities will be destroyed in one or more situations—the roof of the attic and antrum, the posterior wall of the antrum, which is often common to that cavity, and the groove of the lateral sinus, the internal aspect of the tip of the mastoid (*i.e.*, towards the digastric fossa), and, lastly, the external (surface) wall of the mastoid. Grunert states that extra-dural abscesses are much more likely to occur in the acute than in the chronic stage, and attributes this to the presence of pneumococci. My own clinical experience entirely confirms this statement; and I would add that perforation of the mastoid into the digastric fossa (Bezold's disease) has only occurred in my practice as a complication of acute sup. otitis (three cases). I do not suppose anyone will dispute the assertion that in all these cases immediate operation is demanded, and no one will deny that the results are in the highest degree satisfactory, both as regards the complication itself and the conservation of the ear.

(4) Finally, we come to a class of cases about the treatment of which I anticipate some difference of opinion. After a few days (10 to 14) the acuter symptoms of the suppurative otitis have subsided, but the discharge continues, and the patient is very deaf; no particular pain is complained of, and the temperature is normal or nearly so; there is no obvious swelling of the mastoid; the meatus is swollen, particularly at its postero-superior part, and not much view of the tympanic membrane can be obtained, but there appears to be a free exit for the discharge, and the patient feels comparatively well after what

he has gone through ; both he and we think that he is in a fair way to recover, and are loth to suggest anything in the way of an operation. At this point it is of vital importance to make a thorough examination. In making these examinations, I find it better to stand behind and in front as well as at the side of the patient, and always in everything to compare one ear and mastoid with the healthy one. If there is tenderness on pressure or tapping on the base or apex of the mastoid ; if the apex feels to be slightly prolonged on the affected side ; if there is a slight cushiony feel on one side as compared with the other ; if there is increased heat on one side ; if on rubbing the skin briskly on both sides I find that one side assumes a dusker red ; if there is pain or stiffness on moving the head from side to side, with rigidity of the sterno-mastoid ; if several or all of these signs are present, I conclude that an exploration of the mastoid cells is necessary, and in at least four out of five I find pus.

In making the diagnosis, there are certain possibilities of error which must be guarded against. Otitis externa may cause considerable œdema over the mastoid. And in hysteria, severe pain in and acute tenderness of the mastoid may give rise, especially in the presence of ear disease, to a wrong diagnosis. The operation required is simple opening of the cells down to the extreme tip, and in some cases the mastoid antrum. According to Politzer the antrum should rarely be opened in acute cases, because, he contends, there is never any connection between the cortical abscess and the antrum. If that is really so, I am at a loss to explain how it is that the discharge from the tympanum often ceases the day the mastoid opening is made, and hardly ever returns. I have noticed that there is often a distinct separation between the antrum and the cortical abscess. It is advisable to keep the wound open by iodoform gauze packing, until the septic processes have ceased. The results in this operation, which is so simple and easy of performance, as compared with the radical operation for chronic suppurative otitis, are always good : the discharge, as I have said, generally stops at once, the membrane heals, and the hearing is almost entirely restored.

(5) With regard to the cases in which a chronic discharge has just been or is about to be established, where, owing to the absence of air-cells in the mastoid, no evidence of mastoid empyema can be obtained, I am not prepared to offer a decided opinion : but I will say this, that I have never seen any harm follow the opening of the antrum ; and I don't see why we should not, in every case where, the acute stage having passed over (say in three weeks), the discharge continues, open the antrum at once. I think that we should by so doing frequently prevent caries of the ossicles and the walls of the tympanum, save the

patient infinite discomfort, and likewise avoid the necessity for a radical operation in after years. We should also be providing a permanent safety-valve in view of any future re-infection. If no exploration is made, the case should be kept under observation for several weeks.—*Liverpool Medico - Chirurgical Journal*, January, 1899.

102.—TWO CASES OF LATERAL SINUS PYÆMIA.

By JAMES KERR, M.A., M.D.,

Surgeon to the Bradford Eye and Ear Hospital.

The first patient was a boy, 15 years of age, who had suffered from ear discharge for several years. On admission there was paresis of the right side of the face and loss of taste of the right side of the tongue. The right mastoid was opened and a cavity filled with stinking cholesteatomatous material was emptied. Two days later a superficial abscess formed over the temporal bone, and was opened. The temperature, however, still rose to 104 in the evening and fell to normal in the morning. The sigmoid sinus was then explored, and thick green pus found about it. This was cleared away, the opening packed with gauze and the jugular vein ligatured. No improvement occurred—facial paralysis was now marked. A week after admission pneumonic symptoms began, together with constant diarrhoea, and the child died a fortnight after admission. Anti-streptococcic serum was administered but produced no good effect. At the autopsy there was found extension of the thrombus back in the lateral sinus and up the petrosal sinuses. There was discoloration of the bone, and erosion and pus about the jugular foramen. Several perforations of the walls of the jugular vein were found, and the infection appeared to have reached the sinuses by extension from the floor of the middle ear through the vault of the jugular dome.

Case 2.—A boy of five years who had suffered from ear discharge for a considerable time; shortly before admission an abscess had been opened behind the ear. When seen on November 12 the temperature was 97·2, pulse 104. Next morning the pulse was 140 and temperature 103·6; he was mentally clear; no headache or pain; the tongue was dry and furred, and discharge was free. There was no thickening about the jugular vein, and no rigors or retraction of neck. Operation, November 13. An incision was made over the left mastoid bone, and a considerable area of bone was found to be bare. Pus was found deep in mastoid on chiselling, but no discharging track was noticed. The lateral sinus was then exposed freely backwards, and seemed to be

greenish-blue in colour and thrombosed. The jugular vein was ligatured in two places and divided, and the septic clot scraped away. There was free bleeding, which was controlled by plugging. The whole wound was rubbed thoroughly with iodoform and boracic acid. The patient was collapsed, as the operation had lasted 100 minutes. The after progress of the case was at first unsatisfactory, and injections of antistreptococcic serum were given, but the fever still continued, and there was pain in the chest. A week after the previous operation the wound was reopened and the sinus traced back till healthy vessel was reached, it was thoroughly scraped out and plugged with gauze. The middle ear was curetted, and together with the mastoid antrum made aseptic as far as possible. Serum injections were given again at intervals of thirty hours. The cough continued for a few days, but apart from this the case progressed satisfactorily, and the boy was able to return home on December 20.

It is worthy of note that recovery in these cases is unusual after chest symptoms have appeared. The use of the serum appeared to have produced no beneficial effect, and seemed on the other hand to temporarily derange the appetite for food. Early operation was advocated in cases of otitis media where there is a fluctuating temperature.—*The Medical Press*, February 8, 1899.

103.—EMPYEMA OF THE ACCESSORY CAVITIES OF THE NOSE.

By ROBERT H. CRAIG, M.D., Assistant Laryngologist to the Montreal Dispensary.

[The following is from Dr. Craig's paper:]

When pus is found in but one side of the nose, and after excluding syphilis, tubercular ulceration of the nasal mucosa, and the presence of foreign bodies, the probability is that one or more of the accessory cavities is diseased. Parosmia is a very frequent subjective symptom, the objectionable odour so frequently complained of by such individuals may only be subjective or it may cause offence to others, this being dependent upon the amount of destruction present. On examination of the nose, if the antrum of Highmore, the frontal cavity, or anterior ethmoidal cells are affected, pus is usually found in the anterior third of the middle meatus in the region of the hiatus semilunaris, and if an accessory opening exists in the inferior meatus, pus will be found in this situation. It will be readily understood if one will only bear in mind the normal openings

of these three cavities why pus should appear in this situation, for the aperture of the maxillary antrum is situated in the posterior part of the hiatus semilunaris under the anterior end of the middle turbinal. The most constant opening of the anterior ethmoidal cells is situated between the ethmoidal bulla and the anterior insertion of the middle turbinal, that of the frontal cavity in its most dependent part, and leads into the naso-frontal duct which opens into the uppermost part of the hiatus semilunaris.

The opening of the posterior ethmoidal cells is in the sphenoidal recess and that of the sphenoidal cavity in its anterior wall. The size of the latter opening varies, but is always situated in the anterior wall, the distance of the aperture from the anterior nasal spine being from 8 1-2 to 10 centimetres in the male and 7 1-2 to 8 1-2 in the female. Pus originating from either of the above cavities appears between the posterior third of the middle turbinal and septum, or in the choanal or vault of the pharynx, frequently appearing in the form of dry crusts in the last-named situation. Empyema of the nasal cavities is often accompanied by swelling of the nasal mucous membrane, particularly that portion which covers the hiatus semilunaris, the unciform process, and the inferior and outer surface of the middle turbinal. Grünwald considers that a polypoid condition of the middle turbinal is always indicative of empyema of one or more cavities, but Schmidt's, Chiari's, and E. Frankel's observations do not confirm Grünwald's assertion.

The frequent symptoms of referred pain in the so-called cases of facial neuralgia is often caused by pressure of the secretion in the antrum upon the branches of the trigeminus; and in closed empyema, as the result of the accumulation of secretion, distension of the walls of the cavity often occurs. The cavity of the antrum in such cases becomes round in form, and if the tension is not relieved, bulging of the inner or anterior wall is noticed, or there may be bulging over the hard palate, recognised by the presence of a soft fluctuating tumour situated at the roof of the mouth. On examination of the nose in cases of closed empyema of the ethmoidal labyrinth one frequently finds dilatation of the ethmoidal bulla and atrophy of the middle turbinal due to pressure upon it by the enlarged bulla. The bulla is sometimes congenitally dilated, but in such cases both bullae participate in the enlargement. Again, the middle turbinal may become enlarged and present a bowl-shaped appearance. Such enlargement must be differentiated from the condition first described by P. Heyman, in which an isolated ethmoidal cell, frequently found in the anterior third of the middle turbinal, becomes dilated owing to occlusion of its duct. And, finally, when the whole ethmoidal labyrinth is diseased

complete dilatation of the inner wall may occur. In such cases a tumour will be found which fills up the olfactory portion of the nose, causing deviation of the septum to the opposite side, and with its resulting symptoms.

A very suggestive external symptom of distension of this cavity is displacement of the eye downwards and outwards, due to pressure of the paper plate upon the tissues of the orbit, or rupture of the plate and evacuation of the contents of the cavity into the orbit. The possibility of the infection of the meninges by the blood current or by rupture of the cribriform plate must not be overlooked. When there is occlusion of the naso-frontal duct with accumulation of secretion within the frontal cavity, dilatation, if it occurs, usually appears at the inner angle of the eye or upwards and outwards at the base of the nose.

Very little is known regarding the symptoms of distension of the walls of the sphenoidal cavity, but pressure on the optic nerves, which lie on either side of the cavity, may be followed by atrophy and consequent limitation of the field of vision. It is also possible for perforation to take place through the vault of the pharynx in such cases. One could enumerate many other evil effects caused by empyema of the nasal cavities, but those mentioned will suffice to impress upon the practitioner the importance of an early diagnosis.—*Montreal Medical Journal*, April, 1899.

AFFECTIONS OF THE SKIN, &c.

104.—VARIETIES OF ECZEMA AND THEIR TREATMENT.

By Dr. ARTHUR WHITFIELD.

Dr. Whitfield said that although eczema was one of the commonest of skin diseases, there was no unanimity on the subject of its subdivision, and he referred to the old classifications of eczema according to etiology, course, and distribution. All these were unsatisfactory, as they either implied a higher state of knowledge than at present existed, or else did violence to the truth by separating different stages of the same disease. The introduction by Unna of the class of seborrhœic eczemas was then discussed, and the evidence upon which this variety was based was examined. The author pointed out that some of Unna's grounds for including seborrhœa of the scalp and psoriasis in this class were in his opinion insufficient, since the histological characters were little else than those of simple

inflammation, whilst the bacteriological evidence was incomplete. He then described the characteristics of the seborrhœic group of eczemas which remained after separating off pityriasis of the scalp and psoriasis. These were: (1) follicular origin, (2) sharply-defined margins to the patches, (3) serpiginous spread. After quoting a case of Audry's to show that this variety could occur on parts devoid of glands and follicles, and was probably parasitic in origin, he referred shortly to some other forms, including eczema folliculorum, eczema mycoticum, and eczema circumscriptum. These he considered had better be classed under the general heading of seborrhœic eczema until more was known about the parasites causing them. Passing on to the subject of so-called simple eczema, he said that there were two main opinions about its etiology, one that it was parasitic in origin, and the other that it was a constitutional disorder. He reviewed the evidence in favour of the relationship between eczema and gout, and concluded that although it appeared that gouty persons were more prone to attacks of eczema than others, there was no evidence to show that eczema was invariably associated with gout, nor were there any distinctive points of diagnosis between an eczema in a gouty patient and one in an otherwise sound individual. Colombini's researches on the urine in eczema were referred to as tending rather to prove that there was not any evidence of a toxæmia as a cause of eczema. Dr. Whitfield then summed up his remarks by saying that he thought there were at least two main classes of eczema, in one of which there was no proof of a parasitic origin, whereas in the other there was a good deal of presumptive evidence that the disease was infective in nature. He pointed out that the value of an accurate diagnosis lay in the fact that it was much safer to use strong antiparasitic remedies from the beginning in the treatment of the seborrhœic form than in the so-called simple variety.

In the discussion Dr. Galloway remarked that he thought Dr. Whitfield had taken an appropriate opportunity of protesting against the too easily accepted hypothesis of the bacterial origin of eczema, and he especially agreed with Dr. Whitfield in protesting that no special coccus such as the "morococcus" had been discovered to act as a specific organism. If anyone took the trouble to examine carefully the evidence on which Unna had based his description of his "morococcus" as the specific cause of seborrhœic eczema, it would readily be seen how slight it was. In the case which Unna demonstrated before the Hamburg Medical Society, in which he produced what he called his inoculation vesicle from pure cultures of this "white" coccus, the important clinical fact outstanding was that the lesion so produced was not eczema at all, but something much more closely resembling impetigo. From the time of this demonstration this

coccus had been quoted by Unna and many of his disciples as the specific organism in his large group of "seborrhœic eczema." About the same time as Unna, Professor Welch, of Johns Hopkins University, published his observations on the bacteriology of the skin. He showed that the organism which he called the staphylococcus epidermalis albus was a constant denizen in the skin, where it lived a saprophytic existence and appeared to produce no pathogenic effects. No sufficient evidence was on record to prove that the "morococcus" was not an organism of the same class, and there was much to support the view that it was simply a saprophyte. One could not help coming to the conclusion that if any organism did produce seborrhœic eczema, at any rate it was not the "morococcus." Dr. Galloway felt inclined to look upon eczema as the ordinary inflammatory reaction of the skin to many varieties of irritation. There was little doubt that amongst these various irritants bacteria exercised considerable influence. The type of eczema which appeared to be of parasitic origin was the seborrhœic variety, but he wished to emphasise the fact that the evidence in favour of this at the present time was almost completely clinical, and had no definite bacteriological support. It was most important, however, from the practical point of view, to recognise the fact that these varieties existed, as the use of appropriate remedies must be determined by the exactitude with which they were able to define the causation of any individual attack. The value, which had long been appreciated, of antiseptic remedies in the treatment of eczema depended upon the fact that certain manifestations of it were produced by parasitic influence. The more clear they were, therefore, in the recognition of the forms of eczema produced, or influenced by micro-organisms, the more successful would their treatment of the clinical varieties become.—*From report of a paper read before the Harveian Society, British Medical Journal, February 25, 1899.*

105.—TREATMENT OF ECZEMA IN INFANTS AND CHILDREN.

By CHARLES WARRENNE ALLEN, M.D.,
Attending Surgeon (Department of Skin), Good Samaritan
Dispensary, New York, &c.

[The following is taken from Dr. Allen's paper:]

The treatment is almost exclusively local. For the scalp affection, and for dry, scaly patches elsewhere, resorcin is useful, as it is in the seborrhœal forms of eczema in the adult; it is here equally efficacious, but must be used in much decreased

strength, as in the following prescription:—R Resorcin (Merck's), 0·5—1·0; washed sulphur, 2·0—4·0; lanolin, 5·0—10·0; lard, ad, 100·0. M. As an ointment base nothing seems very much superior to the long-tried zinc-oxide ointment. In almost all eczemas about the anogenital and groin region during the past year I have been using a 3 per cent. watery solution of methylene blue, and can say without hesitation that here, as well as in erythema intertrigo in infants, it has given me most satisfactory results. The drug is somewhat analgetic, is soothing to the irritated, raw, and sometimes exulcerated surfaces, it forms a protective coating, is antiseptic, and from its discoloration leaves no doubt as to the time when a new coat of the solution is required. In order to keep the parts free from excreta and urine I instruct the mother or nurse to place the infant regularly at each time of feeding, or every two hours, upon a small vessel with the object of teaching it thus early in life not to urinate in the diaper. Methylene blue I have used extensively in a great variety of eczemas, and believe it a valuable addition to our means of cure. Upon the exposed parts, however, the colour is, in most instances, an objection; and in general the staining of the clothing might be a drawback. In point of fact, the parents are so well satisfied with the results that never has this been raised as a serious objection in any case so treated. The form of seborrhœal eczema is more rarely pityriasic with dry desquamation and slight infiltration of the integument. Here mild salicylic and ichthyol applications are of use, as for example:—R Salicylic acid, 0·2—0·5; powdered zinc oxide, 10·0; powdered starch, 15·0; compound tincture of benzoin, 10·0; lard, ad 100·0. M.

Naturally in this, as in any other forms, if any internal derangement is to be made out, it is to be combated by internal remedies. If there is anæmia, and especially if the secretions are inactive, or there is at the same time intestinal fermentation, the following tablet can be given with decided advantage:—R Calomel, gr. $\frac{1}{16}$; saccharated iron carbonate, gr. $\frac{1}{2}$; powdered white sugar, gr. ij. M. S.: One crushed in milk twice a day. In older children:—R Iron peptonate, gr. xl.; elixir of calisaya, $\bar{3}$ ij. M. S.: A teaspoonful three times a day. An occasional larger dose of calomel, a sixth to a fourth of a grain, once a week, is often of benefit. If the mother of the nursling is a beer drinker or a tea drunkard, or if she is in a state of ill-health, or suffers from habitual constipation, her condition is to be looked after for the benefit of the little patient. In the impetiginous form, if the crusts are thick and not readily removed by oil or soft soap, I often order a favourite cataplasm of the French made with potato flour (*fécule de pomme de terre*), but I usually order it made with some antiseptic, such as mild

bichloride, carbolic acid, or lysol solution, the latter having the advantage of being somewhat antipruritic. In the more chronic, *i.e.*, persistent, forms of older children, and when there are extensive scaly plaques upon the back of the neck, or involving the margins of the scalp regions behind the ears, &c., I use a stiff, paste-like ointment, as in the formula:— $\mathcal{R}$ Resorcin, 1·0; tar, 2·0; prepared zinc carbonate and powdered zinc oxide, aa 10·0; lanolin, 50·0; lard, ad 100·0. *M.* This is an intermediate between stiff pastes and thin ointments without adhesive properties, and has the advantage over ordinary pastes made with starch that, in the latter, when the fat is absorbed by the crusts, the skin, and the dressings, there is left behind a residue of dry, crumbling, or caking material, which is apt to act more or less as an irritant, and thus, in a measure, defeat one of the very objects for which it was employed. When an impetiginous eczema is impetiginous because it has been inoculated with the virus of true impetigo, ammoniated mercury ointment, so useful in the latter, is, in modified strength, here likewise efficacious.—*New York Medical Journal*, April 1, 1899.

106.—REPEATED ATTACKS OF ECZEMA PRODUCED BY PHENYL HYDRAZIN HYDROCHLORIDE.

By ARTHUR J. HALL, B.A., M.B. (Cantab.), M.R.C.P.,
Hon. Physician to, and Physician in charge of, the Department
for Skin Diseases, Sheffield Royal Hospital.

[Dr. Hall first gives the details of an interesting case which occurred in a demonstrator of chemistry, aged 30 years, who was conducting a research with phenyl hydrazin. The cause of the eczema was traced to the laboratory, but only after repeated attacks to the phenyl hydrazin. Dr. Hall makes the following remarks :]

In the first place, until the patient himself isolated the irritating cause, it seemed to be a case of severe recurring eczema, and he was thought to be overworking, and advised to take more exercise and get more fresh air. Since he has found out the cause he is able to continue long hours of work in the laboratory without his health suffering in any way. In other words, the exact irritant being unknown, it was conjectured that ordinary slight irritants which do not affect the multitude produced eczema in him because his neuro-cutaneous reflex was too susceptible, owing to general overwork. Had he happened to have been the demonstrator of

biology who works on the floor above, and had he received the irritating fumes of phenyl hydrazin as he passed the door of the chemical laboratory, or had he even been less observant than he was, it is quite possible that, the cause of the eczema remaining unknown, he might have had to give up his duties and live elsewhere, and then probably the much-maligned atmosphere of Sheffield would have received the blame, and so added one more to its much over-exaggerated evils. In the second place, this case enforces very strongly the fact that a purely local irritant may and does produce a wide-spread eczema. In the patient's fourth attack, December, 1895, the history is very clear on this point. In the afternoon he spilled a little on his left hand, the place began at once to itch and burn, and within a few hours he had a severe outbreak widely-spread over the face, ears, and neck, both hands, scrotum, and insides of both thighs. There is here no possibility of its having spread by continuity, for the positions are widely separated from one another, nor is it fair to argue that possibly the vapour had affected the other parts. That might be true as to the face and neck, but would hardly apply to the insides of the thighs. It seems to me that this is an ordinary example of what occurs in reflex actions: if the stimulus is slight and of short duration there is a local response, if the irritation continues, the associated nervous centres are roused, and if it is sufficiently prolonged, quite distant nerve-centres become active, as in the example of the decapitated frog's foot placed in dilute acid, or the violent fit of coughing following prolonged irritation of the larynx. Thirdly, in cases of eczema where we say "the skin has acquired a bad habit," or, as it has been said, "where the skin remembers," it does not remember with pleasure, but becomes short-tempered; in other words, the neuro-cutaneous reflex, which was at first fairly tolerant and only responded locally, later on rouses other centres, or, I should say, the rest of the neuro-cutaneous reflexes, to activity, and at last the whole reflex is roused by the merest trace of the irritant. In speaking so much of the irritant, I have no intention of forgetting the "irritated." My patient's reflex suffered from the presence of phenyl hydrazin, nobody else in the laboratory did, therefore we may consider that his reflex was in that respect not absolutely healthy, but no other irritant has as yet appeared to call forth this reflex; cold winds, soaps, water, &c., produce no eczema; though, of course, they irritate him during his acute attacks.—*British Journal of Dermatology, March, 1899.*

107.—DERMATITIS AND OTHER TOXIC EFFECTS
PRODUCED BY BORIC ACID AND BORAX.

By R. B. WILD, M.D., M.R.C.P. Lond.,
Honorary Physician to the Manchester and Salford Hospital
for Skin Diseases, &c.

[Dr. Wild gives the details of two cases in which he saw skin affections during the administration of boric acid. The following is taken from his remarks :]

(1) From a review of the recorded cases of intoxication from the use of boric acid and borax it seems clear that two forms must be distinguished—one in which a large quantity of the drug is rapidly absorbed from the alimentary canal, from a serous or other cavity, or from an extensive raw surface : in these cases vomiting and diarrhœa, general depression, and partial paralysis of the nervous and muscular systems occur and may cause death. A rash is noted in many of the cases, especially where the patient recovered or lived some days after the absorption of the drug. The other class of cases results from the administration of boric acid or borax in comparatively small doses for long periods, and the symptoms appear at a variable time after the commencement of the drug. In some of these cases it is mentioned that the kidneys were diseased, in other cases albumin appeared in the urine, and in several cases ending fatally uræmic symptoms are described. Whether the condition of the kidneys or an individual idiosyncrasy in regard to the drug is the determining factor in causing toxic symptoms requires further investigation, but it is an important fact that the great majority of persons taking boric acid or borax do so without any injurious consequences.

It is possible that cases of intoxication occur more frequently than is at present recognised. Boric acid may be taken in food without the knowledge of the patient or the medical attendant, and a case of toxic skin eruption resembling eczema, psoriasis, or exfoliative dermatitis may easily be put down as an unusual form of one of these diseases. About four years ago I saw a patient—a female nearly sixty years of age—with extensive desquamative dermatitis affecting the scalp, the limbs, and the lower part of the body, with œdema of the legs and the arms. She died in three weeks, and the diagnosis of seborrhœic eczema, though appearing most likely from the character of the eruption, was unsatisfactory in view of the œdema and the fatal termination. Looking back over the notes of the case there is room for suspicion that it may have been one of unrecognised boric acid poisoning.

Neumann states that from 1 part of boric acid in 1000 to 1 in 500 is sufficient to preserve milk. These amounts are not infrequently exceeded. It may be noted that even 1 in 500 corresponds to 17.5 grains per pint, and constitutes a very large dose for an infant on milk diet, and is likely in some cases to produce disturbance of the alimentary canal. In ordering milk diet for cases of kidney disease it ought also to be ascertained that the milk supplied is free from excess of boric acid or borax. The use of boric acid or the borates in surgery and their internal administration, though usually free from danger, ought to be carefully guarded in patients whose kidneys are diseased, and immediately discontinued should dermatitis or other toxic symptoms appear. In suspected cases the examination of the urine for boric acid and borax may afford valuable evidence of the absorption of the drug.

(2) During the past year I have administered boric acid to nearly 40 patients who were likely to derive benefit from the drug, and I have carefully watched the cases. In no case has any bad effect followed, though one patient has taken the drug continuously for four months. In one case, that of a man, 70 years of age, who took 80 grains of boric acid per day in divided doses for four weeks, there was a distinct flushing and redness of the skin with the appearance of slight albuminuria. The urine was normal before taking the boric acid, and the albumin disappeared about two weeks after it was discontinued. I have taken boric acid myself in 15 grain doses without any inconvenience. On one occasion I took 120 grains within four hours. The result was nausea, but no vomiting, and colicky pains in the abdomen, followed by diarrhœa seven hours after the first dose, which continued during the night and the following morning. On the next day I suffered from slight headache, a feeling of depression, a want of appetite, and a marked flushing of the skin. The urine was increased, and 60 oz. were passed in the twenty-four hours following the first dose. It contained free boric acid, which was present in that which was first passed four hours after taking the drug, and could still be found twenty-six hours after, but it could not be detected forty-four hours after the administration. A portion of the urine was evaporated to dryness and incinerated, the ash being repeatedly extracted by 90 per cent. alcohol until there was no green tinge in the flame when the alcohol was ignited. The residue was again ignited, acidified by sulphuric acid, and mixed with alcohol, and on igniting the alcohol a green flame was at once produced. From these experiments I conclude that, while a great part of the boric acid is excreted unchanged, a certain portion is converted into borates (probably sodium) and excreted in that form. I was unable to make a quantitative determination

owing to the fact that, as boric acid volatilises in the presence of steam, a large part was lost in the process of evaporating the urine.—*The Lancet*, January 7, 1899.

108.—ERYSIPELAS MIGRANS WITH HIGH TEMPERATURE.

By Dr. MURRELL, Physician to the Westminster Hospital, London.

[From Dr. Murrell's paper:]

Mrs. S. suffered from pain in the lumbar region and a sensation of chilliness from November 10 to 17, but she had no distinct rigor. On November 18 the skin over the bridge of the nose and under the eyes was red and shiny, and there was some tenderness. On November 19 the whole face was red and swollen, and had to be covered with flour. On the following day she suffered from persistent vomiting. She continued to get worse, until she was admitted into the hospital on November 24. Patient's temperature on admission at 6 p.m. was 104·2 degrees, and at 10 p.m. 104·8 degrees. A bright-red shining blush extended over the whole face and half-way up the forehead. There was considerable œdema of the eyelids, which the patient was unable to open, and the lids were swollen and thickened. The tongue was dry, and she had much difficulty in swallowing. She was carefully examined, but no wound or abrasion was found either on the skin or on the mucous membranes. Her lungs were normal. The face was covered with cotton wool, and she was given 40 minims of perchloride of iron every four hours. The following day the redness extended from the face downwards to the left side of the neck. The temperature at night was 105·2 degrees, and she was delirious. She was sponged with tepid water, but this had to be done carefully, as the pulse was weak, and she showed signs of collapse. The delirium was quieted by the administration from time to time of $\frac{1}{4}$ grain of morphine hypodermically. On the 30th, at 3 a.m., the temperature rose to 107·4 degrees, she was wildly delirious, and was controlled with difficulty. At 7 p.m. the temperature had fallen to 99·2 degrees, but at 3 a.m. on the following day it was 106·0 degrees. The rash was desquamating on the face and forehead, but was extending down the back. She took milk, beef-tea, and stimulants freely. Her pulse was 128, of fair volume, and there was no albumin in the urine. For some days there was very little change. The temperature was from 101 degrees to 102 degrees in the morning, and from 104 degrees to 105 degrees in the evening, the pulse being 120. The patient was in a condition of low muttering delirium, and was constantly picking at the bed-clothes. The rash slowly and steadily progressed downwards at the rate of about $1\frac{1}{2}$ in. a day until it reached the first dorsal vertebra. On the 18th patient was found to have a fluctuating swelling on the occipital protuberance from which pus, watery and offensive, issued freely on pressure. In addition there were two sloughs on the scalp, one about 2 in. by $\frac{1}{4}$ in., and the other $1\frac{1}{2}$ by $\frac{1}{4}$ in., the surrounding tissues for an area of 44 degrees being boggy. This was freely laid open by Mr. Guy (Coltart by means of three incisions, each about two inches long, and the wound was irrigated with 1 in 20 carbolic acid, and then dressed with hot boracic acid fomentations. The

patient gradually sank and died on the morning of the 10th. A post-mortem examination was made six hours after death, but nothing of interest was found. The lungs were normal, with the exception of hypostatic congestion, and some old adhesions at the apices.

This case is of interest from the high temperature, 107·4 degrees, and from the fact that life was maintained for 18 days after admission. If we accept November 10 as being the first day of the illness, she managed to struggle on for exactly a month. Death was warded off by the large quantity of nourishment she was able to take, and by careful nursing. It is curious that, with the exception of the surgical incisions, no wound or abrasion was discovered either during life or post-mortem. It is possible, however, that there may have been some abrasion of the cuticle or of a mucous membrane which escaped detection, or may have healed during the period of incubation, and before the patient came under observation. Erysipelas is an acute contagious disease characterised by a special inflammation of the skin caused by the streptococcus erysipelatos. How the streptococci managed to get into the system in this particular case is by no means clear, nor is it very obvious why the disease should have assumed such a virulent form. It is well known that people who are the subjects of chronic alcoholism or of Bright's disease are especially predisposed to erysipelas, and often do badly, but this woman was temperate, and there was never more than a trace of albumin in the urine. The mortality from erysipelas in hospital practice is only 7 per cent., and 4 per cent. in private practice, but the prognosis in *E. migrans* is less favourable. The treatment was purely expectant, for although it has long been customary to give large doses of perchloride of iron in this disease there is no evidence that it modifies its course. Tepid baths, or cold baths, to reduce the temperature might have proved useful, but this object was attained by tepid sponging. Her condition from the first was so serious that the safest course seemed to be to trust to good feeding and careful nursing.

The case affords an unfortunate illustration of the risks run by house physicians and house surgeons in the discharge of their duties. Mr. Guy Coltart operated on the patient on December 8, and on the morning of December 22 he performed a postmortem examination on a non-septic case and slightly punctured his finger. At half-past one on that day his arm was much inflamed, he looked extremely ill, and was unable to go round the wards. The wound was promptly laid open and cauterised with pure carbolic acid, but in spite of this precaution he developed symptoms of blood poisoning, and for many weeks was in an extremely critical condition.—*Medical Press and Circular*, April 5, 1899.

109.—TINEA TONSURANS IN THE ADULT.

By Dr. ABRAHAM.

At a meeting of the Dermatological Society of Great Britain and Ireland, Dr. Abraham showed a case of tinea tonsurans of the scalp in an adult man. Certain authorities, especially abroad, had stated that tinea of the scalp never occurred in adults, but that was not the experience of dermatologists in this country, for, although the condition is extremely rare, some of us had occasionally encountered such cases. Dr. Aldersmith, who had had an enormous experience of ringworm, had come across three or four cases. The present case was the fourth he, Dr. Abraham, had seen since 1885. The first was in a woman, aged about 30, both of whose children he was at the same time treating for ringworm. Her case proved a most difficult one to cure. Another case happened at the Westminster Hospital, in a medical student of 21 or 22 years of age, in whom the scalp lesion was well marked; but he soon got cured. The third was in a woman, who had a sort of tinea circinata at the nape of the neck, which spread upwards to the scalp. The present patient showed well-marked tinea tonsurans on the occipital part of the head. He had been at St. Bartholomew's Hospital for sixteen weeks, undergoing several operations, the final one being amputation of the arm at the shoulder for tuberculosis. He left that hospital in December, and a week or two afterwards he observed a rough patch, with loss of hair, on the back of his head. The patient stated that a week afterwards his little girl (also shown at the meeting) developed a similar patch on her head. Hairs from the man's patch exhibited an abundance of trichophyton megalosporon endothrix. The large-spored variety was also present in the medical student, and probably in the others. In the medical student there was a good deal of mycelium. Dr. Abraham exhibited under the microscope some hairs from the man's head. He suggested that possibly the fungus had been able to flourish in the man's scalp in consequence of the altered nutrition of his tissues, for he had been much run down in health owing to the operations and the disease which made them necessary. There must be some peculiar resistance of the soil to account for the rarity of the condition in the adult scalp.

Dr. Wightwick said he remembered having a case of the disease in a butcher, who had been attending a calf with ringworm. The man had two or three patches on his head, and others over his body.

The President (Dr. E. C. Perry) said there was no doubt about the occurrence of such cases in the adult; most of those

who had had a long experience of ringworm had seen them. But probably the number of instances seen by any one individual could be counted on the fingers of one hand. An interesting point was that since attention had been called to the different varieties of ringworm, all the cases had been found to be of the large spore variety in adult. They knew it was not the constitutional condition nor the age of the patient which determined such cases, because ringworm of the beard was seen frequently enough, although there also it was of the large spore variety and of the ectothrix species. There must, therefore, be something in the anatomy of the hair and its follicle which changed in adult life, and favoured, or did not favour, the development of the ringworm fungus. The hair of the beard was very different in texture and quality to that of the scalp, and that might account for the greater frequency of ringworm in the beard. Sometimes adults attending children with ringworm developed patches of Alopecia areata. At the present time he had under care a child with ringworm of the microsporon variety, and his nurse developed a patch the size of a sixpence, indistinguishable from ordinary Alopecia areata, with "note of exclamation hairs." He had seen half a dozen similar instances. One would like to know whether Sabouraud was right when he stated that adult ringworm was always of the large spore variety. That kind was less common in England than abroad.

Mr. Pernet said he had examined a number of cases attending Dr. Crocker's Skin Clinic at University College Hospital. Only 4 per cent of the tinea tonsurans cases were large spored. During the whole period covered by the investigation, and for some time previously, there had not been a single case of ringworm of the scalp in the adult.

Dr. Eddowes said he could remember two cases of ringworm of the scalp in adults. One was in a woman who was bringing her grandchild to Shadwell. She had quite a typical patch, but as it occurred many years ago of course he did not know whether it was of the large or of the small variety of fungus.—*From Report of Dermatological Society in the British Journal of Dermatology, April, 1899.*

110.—HENOCH'S DISEASE, OR NERVOUS PURPURA.

By FRANCIS A. THOMPSON, M.D.,

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Peliosis rheumatica, Schönlein's disease, and nervous purpura, or Henoch's disease, have all been described under the name of arthritic purpura. It is of the last variety that I desire to

report a case. From an etiological standpoint this disease of childhood has been assigned no microbe, and, except where it is associated with some wasting disease, such as scarlatina, variola, typhoid, &c., has been given no explanation. In some cases there are forewarnings of an indefinite character—*e.g.*, vague headache, an “uneasy” head, lack of appetite, lassitude for a period of time from ten to fourteen days (Ziemann). The attack has been described as sudden, the abdomen becoming sensitive, with severe colicky pains sometimes localised in the left hypogastric region. Vomiting and a diarrhoea of a decidedly paroxysmal character set in, either with or closely following the abdominal pain. The patient retches and vomits, and has a peculiar expression of horror upon the face. The matter vomited is usually the contents of the stomach mixed with blood and mucus, and these may soon be followed by bile, &c. The evacuations from the bowels are of a brownish, sticky quality, and of a peculiar odour. The urine passed is cloudy and very dark in colour.

Following closely on or accompanying the first paroxysm of vomiting begins the swelling of the ankles, knees, wrists, elbows, shoulders, and buttocks, attended with pain, and the petechiæ make their appearance on the extensor surface of the joints. Soon the paroxysms of vomiting and diarrhoea diminish or cease, leaving bright-red irregular blood spots under the skin. They are found on the extensor surface of the legs, arms, buttocks, and shoulders, mostly on the dependent parts. They do not disappear on pressure, and they vary in size from that of a pin’s head to that of a quarter of a dollar. They persist for a week, turning various colours—green, yellow, &c. There are symptoms of a rapid internal hemorrhage; in the urine you may find blood, casts, blood-colouring matter, and always albumin, the consequence being usually nephritis. The prognosis is comparatively grave (Osler estimates one in four, Ziemann higher), nephritis or the effects of the serious hemorrhage ending the scene. The recurrence of the attacks has not been referred to in the books consulted. The treatment as laid down is symptomatic; small doses of opium, preferably morphine, and atropine are given hypodermically. Absolute quiet and rest in bed are enjoined. The after-treatment consists in a rigid system of tonics, of which arsenic seems to head the list. This drug should be pushed to its physiological limit. Iron, in an easily assimilable form—ferratin, peptonate, hæmoglobinate, &c.—should be given with the arsenic. Ergot, tannic, and gallic acids seem to have no appreciable effect on the frequency of the attacks. (*Twentieth Century Practice*.) The diet should be light, guarded, and wholesome.—*New York Medical Journal*, November 26, 1898.

111.—THE TREATMENT OF ITCHING

By THOMAS D. SAVILL, M.D. Lond., D.P.H. Camb.,

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[From Dr. Savill's paper.]

For purposes of treatment, cases of pruritus may be divided into two classes—those, on the one hand, which are dependent upon some eruption or local condition (such as the presence of parasites or an irritating discharge), and which are, for the most part, localised in their distribution to some region of the body; and those cases, on the other hand, which are general in their distribution, and which are either unaccompanied by an eruption, or if so accompanied, the eruption is secondary to the pruritus and has well-defined characters. The eruption in these circumstances consists of three elements—a papular element, an erythematous element (which is sometimes very scanty, or even absent), and the scratch-marks produced by the patient's rubbing; and such cases (pruritus plus this eruption) are called prurigo.

Rational treatment must always be based upon pathological considerations. The pathology of the first of these classes is comparatively simple, for it is obvious that the involvement of the sensory nerve endings in the morbid process of the skin lesion is the cause of the symptom itching. Our efforts, therefore, in such cases should be to remove the local condition upon which the itching depends. This may involve any or all the considerations upon which the treatment of skin diseases depends. But by far the larger number of cases consist of such conditions as eczema of the anus, or eczema intertrigo; for eczema is essentially the disease which arises when traumatic conditions are in operation, as in cases of "baker's itch," "washerwoman's itch," &c. The treatment recommended by different authors in such cases varies, of course, very widely, but the remedies prescribed should always be of a more bland and soothing description than those ordered for skin lesions of similar nature occurring without much pruritus. In my own experience, a little cocaine (say 2 per cent.) added to a mild tar and mercury ointment is often of great value. In cases of eczema ani or vulvæ the keeping of the parts dry is often successful where other measures have failed. Frequent dusting with a powder consisting of equal parts of zinc oxide, bismuth sub-nitrate, and starch, to which, in very bad cases, 1 per cent. of hydro-chlorate of morphia may be added, is a valuable

remedy. Another useful preparation consists of lead lotion, to which a small quantity of glycerine and oxide of zinc may be added.

But cases of local pruritus dependent upon a local cause, and remediable by purely local measures, form but a small proportion of the troublesome and intractable cases of pruritus which so vex the soul of the practitioner. If such simple measures fail, we should always suspect some general or constitutional condition. In cases of eczema vulvæ or pruritus ani which resist these means, diabetes should always be suspected. In slight cases of jaundice also itching is not infrequently a more prominent symptom than the icteric tinge of the skin, which may be easily overlooked. In both of these diseases, pilocarpine—preferably administered hypodermically, say $\frac{1}{4}$ of a grain per diem—will often greatly relieve the troublesome itching. Both of these conditions are usually attended with considerable dryness of the skin, and when this is relieved the itching frequently disappears. Great cleanliness is required in all the conditions we are now considering, and this alone is sometimes all that is necessary. A little carbolic acid (1 per cent.) added to the lotion has a very soothing effect on many such conditions. This is notably so in the itching of ulcers, where I have often found that thorough cleanliness and the washing off of old ointment before the application of fresh relieves the intolerable itching and smarting that so frequently accompanies the final stage of healing of an ulcer of the leg.

Turning next to the second group of cases of itching, those in which the pruritus is more or less general, this is the condition which, when it is attended by the eruption having features mentioned at the outset, is known as prurigo. The term "prurigo" should be strictly confined to a disease characterised by general itching, and the appearance of an eruption on the skin consisting of papules, sometimes erythematous blotches, and scratch-marks. The use of the adjective "pruriginous" as synonymous with itching is not justifiable, and leads to much confusion. Confusion is also caused sometimes by using the term "prurigo" for a condition consisting of general itching without such an eruption.

The treatment of general pruritus and prurigo is one that merits very careful study, for it makes the lives of many people unbearable. I have met with two cases which resulted in insanity, and one which led to suicide; all three came under observation before I adopted the measures shortly to be described. Many remedies have been employed. Baths and other local remedies are sometimes of use. A creolin bath, for instance (in the proportions of 1 drachm to 10 gallons), or an alkaline bath (bicarbonate of sodium 8 ounces, water at

90° F. 30 gallons). Plain warm water sometimes relieves, but not infrequently patients say that it aggravates the condition. Ointments and lotions are practically of very little use, because of the wide distribution of the trouble. The lead and zinc lotion above mentioned may be tried, or preparations containing a little calamine or bismuth. Hydrocyanic acid seems to have a local sedative action, and a lotion of equal parts of liquor ammoniæ acetatis, methylated spirit, and rose water is pleasant because it is cool. But all these measures are only palliative. We must turn, therefore, to constitutional remedies. Hebra recommended carbolic acid internally in doses of $\frac{1}{2}$ grain. Tinctura gelsemii, 20 minims thrice daily, has been known to relieve. But perhaps the best of the internal remedies hitherto in use is chloral hydrate, 10 or 15 grains thrice daily. However, it is unfortunately attended by narcotic properties and a dangerous habit may be induced, and the moment it is left off the itching returns as bad as ever. Pilocarpine internally, by promoting perspiration, is sometimes useful, as already mentioned. The bromides would theoretically be indicated here, and in cases attended with a marked neurotic element they are useful. But in ordinary cases of prurigo and pruritus, beyond the fact that they induce sleep and help the patient to cease scratching, they are, in my experience, absolutely useless, though I have tried them many times.

In 1896 I first tried calcium chloride in large doses, the idea having occurred to me after reading Professor Wright's researches into the effect of this remedy in increasing the coagulability of the blood. The fact that cases of prurigo are frequently attended by erythematous or urticarial exudations seemed to me to point to a tendency in the blood in such cases to exudation, and, therefore, to increased fluidity, that is to say, diminished coagulability. Consequently, whatever would increase the coagulability might, I thought, relieve this troublesome symptom. The favourable results attending the administration of calcium chloride in the first few cases induced me to try it more extensively, and in almost every case the effect was very striking. Seven cases were published in 1896. Since then many observers have tried the same remedy, and on all hands I have received striking confirmation of the efficacy of this remedy, not only in cases of general pruritus and cases of prurigo, but also in relieving the itching which accompanies all kinds of eruption.—*Treatment*, December 22, 1898.

Obstetrics and Gynæcology.

112.—PRESENTATIONS AND POSITIONS OF THE FŒTUS.

By ELIZA H. ROOT, M.D.,

Chicago, Professor of Obstetrics in the North-Western
University Woman's Medical School.

[The following is an excerpt from Dr. Root's paper :]

The varieties that occur in presentation and position must not be overlooked. First: Varieties occurring in the lie of the fœtus.

(a) In a vertical lie the long axis of the fœtus crosses the long axis of the uterus at an acute angle, and may be named in the diagnosis, left or first head-lie oblique and second or right head-lie oblique. In a breech-lie this obliquity has but little significance, for it usually exists, the breech never engaging until labour begins; indeed, the oblique lie may serve as an aid to a correct diagnosis of breech-lie. But in a head-lie it is significant, for it always indicates some existing disproportion between the fœtus and the maternal parts that exerts a more or less important influence upon labour and its prognosis. The cause of the obliquity in the head-lie may rest with the maternal parts, as in cases of hydramnios (a common cause), a contracted inlet, or a flat pelvis. It may rest with the fœtus, that may be too large to enter a normal pelvic inlet; or the fœtus may be too small to engage. In multiple pregnancy the anterior fœtus may rest in the oblique lie. The natural forces of labour in its early stage may convert an oblique lie into a cross-lie. This accident is especially liable to occur in hydramnios, narrow inlet, or in the presence of a pelvic tumour. Some authors call a cross-lie an oblique lie. It is gratifying to find that Dr. Hirst, Dr. Grandin, and Dr. Jarmin separate the oblique lie from the cross or transverse lie, and emphasise its importance.

(b) In a cross lie any part of the trunk may present—back, abdomen, shoulder, scapula, or gridiron. As version must correct the cross lie, the part presenting plays no important part in the mechanism of delivery.

Second: Varieties in the position of the presenting pole of the foetus.

(a) Head-*lie*: Extension of the chin, producing face or brow presentations; transverse positions of the head—*i.e.*, the long diameter of the head engages in the transverse diameter of the inlet or parietal bone posterior with the plane of the biparietal diameter of the head oblique to the plane of the inlet—Nägele's obliquity. Auvard, of Paris, in a late American edition of his work, treats the transverse position of the head as anomalous, likely to occur in large or flattened pelves. But he includes it in his tabulated formula, in which he still adheres to the old plan of eight positions for the vertex. Other and very recent authors treat the transverse diameters of the head as anomalous, but do not enumerate them with the four cardinal positions now in general use. Clinical experience teaches the latter to be more in accordance with the truth and with simplicity.

(b) Varieties of breech-*lie*: Complete breech-*lie*, the more favourable and typical; incomplete breech-*lie*, the more unfavourable and atypical. In the complete breech, the sacrum or nates present, the thighs are flexed upon the trunk, the legs upon the thighs, the feet crossed and presenting with the nates. In the incomplete, sacrum or nates present, but the limbs are extended so as to lie parallel with the abdomen of the child, the feet resting near the chin, or one foot on each side of the neck. When both limbs are thus extended the labour is difficult and tedious, especially in primipare, and the child's life is placed in jeopardy.—*New York Medical Journal*, April 8, 1899.

113.—SYMPHYSIOTOMY.

By WALTER C. SWAYNE, M.D. Lond.,
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[From Dr. Swayne's paper.]

Originally introduced as a substitute for Cesarean section, symphysiotomy has now come to be regarded as the proper substitute for craniotomy, since, although the maternal mortality is rather larger, the child, instead of certain destruction awaiting it, has a very good chance of survival. It has also been performed deliberately at term in cases of contracted pelvis instead of the induction of premature labour, and here the results as regards the life of the foetus are also very much better, but the maternal mortality is higher. The combined mortality rate in the hands of Pinard and Tarnier respectively is 18·36 for the former in symphysiotomy, and 20·29 for the latter in induced

labour. As a substitute for craniotomy it is always performed as an operation of emergency, and it is under this head that the operation described in this paper was performed.

The general indications for its use may be briefly stated as follows:—(1) Absolute contraction of the pelvis when the conjugate diameter is above $2\frac{3}{4}$ inches; (2) relative contraction when the foetal head, not being enlarged by hydrocephalus, is too large to pass through a normal sized or only slightly contracted pelvis. It is not suitable for cases in which a tumour impacted in the pelvis or bony outgrowth prevents the descent of the head. An essential condition for its performance is, that the child should be alive. The time for operating is when the first stage of labour is complete or almost complete, and the cervix so dilated as to allow of the easy application of the forceps and the passage of the head through it. It should not be performed for rigidity of the soft parts, or when great rigidity is present. Most careful attention to antiseptic measures is necessary, and the patient should as far as possible be prepared as if for an abdominal section, the pubes being shaved and the skin cleansed as perfectly as circumstances will admit. The operation itself is performed by two methods—the subcutaneous and the open methods. The former is the preferable, as the longer the incision in this region the greater the difficulty in preventing contamination of the wound. All that is necessary is, that the incision should be of sufficient length to allow of the free passage of the finger behind the pelvic articulation.

Two assistants are necessary in addition to the anæsthetist, as after section of the joint care must be taken to avoid the too wide separation of the bones during the passage of the head through the pelvis. The dangers to the patient are from hemorrhage and sepsis: the first, however, is easily controlled, and the second should not be likely nowadays. The open method by long incision is said to cause less hemorrhage, since this is usually produced by laceration of the soft parts and vessels around the joint on its separation, but the increased risk of contamination rightly seems to render the subcutaneous method preferable. The most experienced operators do not consider that wiring or suturing the bones together is of any material advantage, and in several cases partial necrosis of the bones and troublesome fistulæ have resulted where this method of treatment has been adopted. The gain in space which is the result of the operation is as follows:—As much as $1\frac{1}{4}$ inches may be gained as a maximum: that is, when the maximum divergence consistent with the integrity of the sacro-iliac joints is caused, the divergence is just about three inches, and beyond this it should never be allowed to pass. Since the transverse diameter increases very nearly to the same extent as does the distance

between the separated ends of the bone, it is obvious what an increase in the sectional area of the pelvic canal can be gained. In the case described the true conjugate was estimated at $2\frac{3}{4}$ inches ; and as the separation of the bones during the extraction was about $2\frac{1}{2}$ inches, nearly an inch was gained in the antero-posterior and about $2\frac{1}{4}$ inches in the transverse diameters, bringing the available space up to that required for an ordinary forceps extraction, namely, to $3\frac{3}{4}$ inches antero-posterior, and to considerably more than the normal in the transverse, which, although not measured, was obviously contracted, though not to so great an extent as the antero-posterior.

[Details of a case are then given.]

The conditions under which the operation in my case was performed were extremely favourable. Labour was not so far advanced as to prejudice the mother's chance of recovery ; in fact, the os was only fully dilated just before the application of the forceps ; plenty of assistants were at hand, a good light, and all appliances for carrying out antiseptic and aseptic methods ; but at the same time the difficulties which would arise in less favourable circumstances are not insuperable, and the operation itself is not in reality much more difficult than a severe craniotomy, which latter, if a living child is to be operated on, is a most loathsome proceeding.—*Bristol Medico-Chirurgical Journal*, March, 1899.

114.—POSTURE IN OBSTETRIC OPERATIONS.

By Dr. DICKINSON.

The author (*Amer. Jour. of Obs.*, December, 1898), in reviewing the various positions adopted for confinements, takes occasion warmly to commend a combination of the Trendelenburg and Walcher positions. The obstetric operations for which it is suitable are high forceps, version, high manual internal rotation for occipito-posterior position, reposition of cord, &c. The combined position is effected as follows :—In maternities the patient is placed on the Trendelenburg incline, and slid upwards till she balances on her sacrum, the legs hanging over. In private practice a plain wooden chair with a flat back, and no rungs between the rear legs, will serve the purpose. The chair is placed on its face across the foot of the bed, the back forming the incline for the Trendelenburg position. A blanket or double sheet is laid along the chair back, and may fall over the chair bottom. The patient, when anaesthetised, is placed on the inclined plane in such a manner that the buttocks rest on the upturned back edge of the chair seat, and that they project a little beyond the chair seat towards

the operator, so as to give him unimpeded access to the vagina between the rear chair legs. The patient is held in this position by means of a sheet twisted into a rope, and passing behind her neck and in front of the shoulders, while the two ends are made fast to the rear legs of the chair. Each knee is then grasped, and the legs swung outwards until the thighs hang outside of the upturned chair legs. The weight of the lower limbs causes them to drop towards the floor, with the knee lower than the hip. The advantages claimed for this position are that the vulva is at a convenient height for the standing operator; that the direction of the canal formed by the vagina and the cervix, which leads into the uterine cavity, is more direct and more nearly level than that in any other posture, and that it possesses the advantages of the Walcher posture without its disadvantages. As is now well known, the Walcher position causes a lengthening in the conjugata vera, averaging 0.9 cm. ($\frac{3}{8}$ in.); in addition, the depressed posterior vaginal wall comes nearly in line with the posterior uterine wall, and there is a birth canal which is as straight a cylinder as it ever can be. The objection to the Walcher posture is that the direction of traction is straight towards the floor in pulling a head through the inlet in the axis of the latter. This greatly embarrasses any manœuvre, and calls for muscle on the part of the assistant, who holds back the patient on the precarious edge over which the operator's traction is pulling her. The combination of the Trendelenburg with the Walcher posture levels the birth canal, and does away with the necessity of the operator sitting on the floor or working from beneath in a most uncomfortable predicament.—*British Medical Journal Epitome*, March 10, 1899.

115.—A CASE OF RUPTURED TUBAL MOLE SUCCESSFULLY REMOVED BY OPERATION.

By GEORGE WILKINSON, M.B., F.R.C.S.,
Hon. Surgeon to the Sheffield Royal Hospital.

Elizabeth C., aged 30, a married woman, was admitted to the Royal Hospital on the evening of October 11, 1898. Her history was as follows:—She had been married twelve years, and had had three children, the last nine years previously. Her confinements had been normal, and she had never miscarried. She had menstruated regularly until her last period, fourteen weeks previously. She then missed two periods and thought herself pregnant. A week after the second period was

due (five weeks before admission) she began to be unwell, the discharge being more than usual in quantity and continuing for a week. It then ceased for a few days. An attack of sudden severe pain in the lower abdomen then occurred, after which the metrorrhagia again appeared. Since that time, up to the date of admission, she had pain of varying intensity in the lower abdomen and irregular discharges of blood per vaginam. She says that about two weeks before admission she "passed a substance like a piece of skin," and the discharge contained clots of blood on many occasions.

On examination at 11 p.m. the following condition was found:—The patient had the aspect of abdominal pain, and complained of considerable pain and extreme tenderness of the lower abdomen. The respiratory movements were but little limited. There had been no vomiting for the last three weeks. The bowels had been moved naturally that day. No dullness was detected on percussion of the abdomen. Temperature, 89·80°; pulse, 84. An examination per vaginam revealed nothing, partly on account of the amount of fat in the abdominal wall and partly on account of the tenderness and rigidity of the lower abdomen. There was a bloody discharge from the vagina. There were no symptoms of collapse. It was decided to examine the patient under an anæsthetic on the following morning and to perform abdominal section forthwith should the condition then found demand it. October 12, 11 a.m.—The patient had passed a fair night, and her condition seemed much the same as when previously seen. Ether was administered and a vaginal examination was made. A tumour was detected close to the uterus on the left side, feeling like a distended Fallopian tube. There was an ill-defined sense of fulness on bi-manual examination above this distinct tumour. No pulsating vessels were felt. The sound passed into the uterus to the extent of three inches. Abdominal section was clearly indicated, but as I found that I could not have the assistance of either of my colleagues at that time, and the patient's condition did not seem critical, I decided to postpone the operation till 4 p.m. At that time the patient was put under ether. An incision six inches long was made below the umbilicus, one inch to the left of the middle line, down to the rectus muscle. The muscle was displaced outwards, and the peritoneum was opened by an incision corresponding to that in the skin. Much blood-stained fluid and numerous blood-clots, some old and some recent, were found free in the peritoneal cavity. A hand passed down into the pelvis separated some slight adhesions around the uterine appendages on the left side. Two large Spencer Wells clamp forceps, guided by the hand in the pelvis, were placed on the broad ligament so as to include left appendages, and these were

cut away. The pedicle was now brought into view by traction on the clamps, and a large vein, which had been cut but had not been included in the clamps, was ligatured separately. The pedicle was then secured by two ligatures. The remaining clots were scooped out of the pelvis by the fingers and the blood-stained fluid mopped out. The peritoneum was then sutured with catgut. Silkworm-gut sutures were then passed through the skin, subcutaneous tissues, the anterior part of the sheath of the rectus, and into the rectus muscle, so as to fix it in position behind the skin incision. A superficial continuous suture of silkworm-gut completed the closure of the wound. The patient's temperature rose to 100.8° on the following day (13th), and to 101.6° on the 14th, after which it gradually declined to normal on the 19th. She never had any vomiting or abdominal distension. The bowels were moved on the 13th and 14th. Except for some suppuration occurring round two of the deep sutures the further progress of the case towards recovery was uneventful. The parts removed consisted of the left ovary and the left Fallopian tube, which was distended and had ruptured. In gently handling the tube before applying the ligatures, an elongated mass, $2\frac{1}{4}$ inches long by $1\frac{1}{4}$ inches broad, was separated from the tube. It had the appearance of a firm blood-clot. When cut into it was found to contain a central, smooth-lined cavity. No embryo was found. The mass fitted by its smaller end into the ruptured portion of the tube. A thin layer, broken off from the mass, remained attached to the proximal part of the distended tube. Microscopic section of the mass showed what were taken to be chorionic villi, though these had lost their epithelial covering.

Remarks.—From the appearances of the mole the ovum had probably not attained more than five or six weeks' development before hemorrhage took place into it. It seems probable that this hemorrhage occurred about the time that the first discharge of blood from the vagina was noticed after the two missed periods. Supposing conception to have occurred shortly before the first missed period was due, the ovum would actually have reached the fifth or sixth week at the time when the menorrhagia commenced. Possibly the sudden severe attack of pain occurring some ten days later marked the occurrence of rupture of the tubal sac. The sense of ill-defined fulness above the dilated tube detected on vaginal examination on the day of the operation doubtless indicated "hæmatocele" around the site of the rupture in the tube, which was diffused whilst making the examination under the anæsthetic on the morning of the operation, and which gave rise to the clots and blood-stained fluid found on opening the peritoneal cavity.—*Quarterly Medical Journal, January, 1899.*

116.—VAGINAL CÆSAREAN SECTION.

By A. DUHRSSSEN,

Professor of Gynæcology, University of Berlin.

Thanks to asepsis and Sänger's method of vaginal suture, the old Cæsarean section has lost much of its terrors, so that the indications for it are not confined to absolute obstacles to delivery, but are extended to cases of moderate obstruction. A substitute has been proposed for the operation in perforation and symphysiotomy. I have substituted vaginal Cæsarean section in one case, and I repeated the operation last year. The description and the results of the operation have already been published in a monograph. It consists essentially in a sagittal splitting of the anterior and posterior vaginal culs-de-sac and separation of the bladder from the uterus and splitting of the uterine wall as far as the lower uterine segment, is required. In this way in the first case I was able to extract at term a child weighing 4,700 grm. Puerperium normal. In the monograph I have formulated the three following indications for the operation: (1) Abnormalities of the cervix and lower uterine segment, which render dilatation impossible or difficult. (Carcinoma, rigidity, stenosis, sacculation.) (2) A dangerous condition of the mother, that rendering speedy delivery necessary. (3) Dangerous conditions that will lead to speedy death. It was on this account that I operated last year in a case of mitral insufficiency and dilatation of the right ventricle; in which the patient had passed several days and nights sitting upright in a chair. There was still some hope if the uterus could be promptly emptied, otherwise it was evident she would die during the course of the labour. The operation was performed as described. The blood was almost black. Easy turning and extraction of an asphyxiated female child; but immediately afterwards the pulse stopped, and finally, whilst attempts at resuscitation were being performed, sutures were inserted, the placenta was removed and the uterus plugged. The operation lasted at most five minutes before the child was visible. The autopsy showed that the operation had been entirely extra-peritoneal. In case of carcinoma, extirpation of the uterus should follow extraction of the child. That this would be successful was shown by a case of rupture of the uterus, which was followed by successful extirpation. The results of other operators who have adopted this method have been even more favourable than my own, when, as I recommended, the posterior vaginal wall was split up. The mortality was 27 per cent., a favourable result when one remembered that in

eight out of eleven cases carcinoma was the complication that called for the operation. Some, such as Olshausen, have a horror of the operation because they believe that speedy delivery at term is incompatible with gentle handling, and that gentleman recommended the classical Cæsarean section with subsequent removal of the organ. But Olshausen's operation is a much longer one, there is more danger of shock and infection, and more manipulation of intestines. As regards hemorrhage it is free in both forms of operation, but in the vaginal it ceases as soon as the hand is introduced. Drawing down of the uterus and plugging are effective means of arresting hemorrhage. The operation is also indicated when there is premature separation of the placenta with absence of pains, and when the cervix is not dilatable.—*The Medical Press and Circular*, February 22, 1899.

117.—PUERPERAL SEPTICÆMIA.

By L. COYTEUX PRÉVOST,

Gynæcologist to St. Luke's Hospital, Ottawa.

I would suggest the following method of sterilisation which I have adopted, before beginning any surgical operation:—(1) The nails are cut short and cleaned, when dry, with a knife or any instrument suitable for that purpose. (2) The hands are scrubbed during five minutes in warm water frequently changed and with Johnson's fluid soap, which, owing to the ether it contains, helps to dissolve the fatty substances which cover the epidermis and gather under the nails. (3) Hands then thoroughly bathed in alcohol and rinsed in sterilised water. (4) Finally, they are immersed for one minute in a solution of sublimate. I apologise for laying so much stress upon these details, irksome as they may appear, but which I persist in considering of the greatest importance.

Now come the forceps, which may also claim a good deal of the many disorders observed during puerperium. I do not mean their awkward, irregular or untimely application; this goes without saying, but I allude to the lack of sterilisation, which is a fault more frequently committed than some seem to think. Every time they have been used, these instruments should be disinfected by dipping them during at least five minutes in boiling water, wiping them dry with a sterilised towel, in which they remain wrapped up until the next application. It is an easy and simple thing to do, and I generally employ, to this effect, one of those long and narrow vessels used for boiling fish, and which are found in all hardware stores. A source of infection to which I want to call your

attention is the retention of the secundines during the third stage of labour. I do not mean the retention of parts of the placenta itself, but some portion of the membranes which, remaining in the uterus, become infected, and are often the starting point of septicæmia. I would not have made this observation, which may seem puerile, had I not witnessed this accident in the hands of even skilful physicians. The placenta is often suddenly expelled, by the pressure made upon the fundus of the uterus or merely by contractions of that organ. Thus, the secundines are turned up like an umbrella by the wind, becoming slender and very fragile. They may unexpectedly tear up, a considerable portion being left behind. This possible occurrence should always be carefully looked for, the placenta being grasped and twisted upon itself in order to make a rope of the membranes, which, without the least traction, will slowly slide down and out as if by their own weight.

I shall have ended what I intended to say about the prophylaxis of puerperal infection when I recommend you to supply the obstetrical bag with the following articles :—A bottle of catgut, a few strands of silk-worm gut and needles for the repair of laceration, a few strips of iodoform gauze, some creolin, Johnson's fluid soap, a nail brush, and a small package of sterilised absorbent cotton. You may add, if you like, a Bozeman's sound or any other suitable instrument for intra-uterine douches ; however, except when the hand has been introduced into the uterus, as in cases of turning or adherent placenta, I think it entirely unnecessary to make intra-uterine irrigation after labour. But what must be most carefully looked after is the laceration of the pelvic floor, however small the lesion may be. In every case, these doors opened to septic invasion must be closed as soon as possible. The repair of a cervical laceration is often difficult to perform for one who is not in the habit of doing this operation, and who, therefore, is certainly excusable in not attempting what he is not in a position to do in a suitable manner, but the immediate suture of a vaginal or perineal laceration is within the reach of everybody ; two or three silkworm gut sutures being all that is required, provided care is taken to protect the line of reunion with a small strip of iodoform gauze which shall be renewed every twenty-four hours for a few days. In spite of all the precautions which may have been taken, and all the more if they should have been neglected, puerperal septicæmia will nevertheless occur and far too often, alas !

Whatever may be the form assumed later on by puerperal sepsis, we must bear in mind that the etiological starting point is the same in every case, that is : absorption of pathogenic

germs rendered possible by a solution of continuity in the genital system. The initial symptoms differ very little at the outset, and it is then that we must act, that is, at the very moment when the infection, still localised, is within reach of the means at our disposal to check it at its origin. We must, therefore, be vigilant, and be able to recognise its earliest manifestations. It is generally about the second or the third day after delivery that the declaration of war takes place, and the first gun-shot fired by the organism is the elevation of temperature. Every night and morning after labour, temperature must be taken by the nurse or the physician himself, whatever may be the apparent good condition of the patient. Should the thermometer indicate the least increase in the temperature, then is the time to prepare our means of defence and try at once and discover the issues through which the foe may have penetrated. There is fever; be sure, then, that there is septic absorption somewhere. We must guard against any false security, and I hope that no one among you is still believing in the old pretended milk-fever. At the most, might we be justified to a certain extent, in incriminating in some cases, stercoræmia due to a more or less prolonged constipation. At all events, it is but wise to prescribe some laxative which will soon clear the scene. In almost every case of elevation of temperature at the beginning of the puerperal state, septic absorption has taken place either in the placental wound or along the genital tract, through some abrasions which, owing to their exiguity, often escape the most careful search. As soon as fever appears, an antiseptic vaginal douche should be given, and if some suspicious spot is detected on the pelvic floor, it must be touched lightly with some caustic substance. I generally use in these cases a solution of one part of creosote in three of glycerine, leaving afterwards in contact with the mucous membrane, a strip of iodoform gauze; the next day, very often, the temperature falls to normal. But should we fail to discover anything suspicious along the vagina and should the temperature continue to rise, in spite of repeated antiseptic injections, then it is a sign that the enemy is proceeding forward more threateningly. Should frequency of the pulse increase while temperature continues to rise or even remain stationary, but above normal; if the conditions of the tongue indicate gastric disturbance, whether there has been a chill or not, and whether the abdomen shows or not distension or tenderness, let the lochiæ be sweet or fœtid, we must at once use intra-uterine douches. But then we must bear in mind that the instrument will get in contact with an open wound, and the antiseptic precautions must be carried out with the utmost care. The hands are carefully disinfected, the vagina cleansed

and irrigated with a creolin solution. A Bozeman's sound, thoroughly sterilised, is introduced in the uterus, and the uterine cavity is washed out with creolin, taking care to hold the reservoir not more than one or two feet above the patient's bed. It is an error to believe that the offensive character of puerperal vaginal discharge is an ordinary sign of septicæmia. It is erroneous also to attribute to this sign a gravity which it does not always possess, and finally more erroneous still to think that fetor of lochiæ is the exclusive indication of post-partum curettage. Many, many cases go through all their phases and even kill without the lochial discharge offering the least odour, and others terminate favourable and often without having presented any other symptoms than precisely that fetor, accompanied with some elevation of temperature and perhaps an increased frequency of the pulse. Fetor of the lochiæ being a sign of the presence of decomposing material in the uterus, surely constitutes a new indication for curettage, but it is not a *sine quâ non* of the necessity of this operation, and whether it exists or not, and I insist upon that point, as soon as progressive or persistent elevation of temperature, acceleration of the pulse, gastric disturbance, cephalalgia, &c., &c., have convinced us of the beginning of septic absorption, if these symptoms have resisted the influence of intra-uterine irrigation, we must at once curette the uterus. To do this operation in a satisfactory manner I prefer anæsthetising the patient, although it is not absolutely necessary; Pinard, at the Baudelocque Clinique, never does it. He says that curetting can be done with hardly any pain, if care be taken to hold horizontally and not vertically the vulsellum with which the uterus is drawn down, and always to avoid bringing the instrument in contact with the superior part of the vulva. He contends that the pressure of the vulsellum upon the soft and tender tissues situated at the entrance of the vagina is what generally causes the greatest pain. The hands are disinfected, the instruments sterilised, the vagina irrigated, and finally an intra-uterine douche given. The curette must have a long handle, and a large dull wire loop. The fundus is first carefully scraped, then the lateral, and at last the anterior and posterior walls of the uterus. Two dangers must be avoided in performing this operation, to go too far or not far enough. During puerperium, and after miscarriage, we must always bear in mind that the uterine tissue is exceedingly soft, and should the instrument be carelessly pushed forward with too much force, it is liable to perforate the organ. This has occurred already, and the woman died. On the other hand, should we proceed with too great timidity, in the fear of perforating the uterine walls, the fundus may not be reached, and the results

will be null. After miscarriage or normal labour, the uterus sometimes is ante or retro-flected. A portion of the placenta may remain adherent to the fundus, and shut out of the rest of the cavity by a kind of hour-glass contraction. The constricting ring constitutes a sort of resisting ceiling which the curette may scrape as well as the rest of the lower segment. The operator will not dare force a resistance into what he believes to be the fundus of the uterus itself, fearing to produce a perforation. I can assure you that, in some cases, this error is more easily committed than one would think, still, I fancy that it suffices to remember the possibility of its occurrence to avoid it. We must always carefully find our way with the uterine sound if necessary, the free hand being at the same time applied to the fundus through the abdominal walls. After curetting, another intra-uterine irrigation is given to carry out the clots and débris which might have escaped the curette, and the whole cavity of the uterus is to be touched with an applicator wound with a piece of absorbent cotton soaked in a solution of creosote in glycerine. Finally, a strip of iodoform gauze is carried up to the fundus, and removed the next day.

It remains to say what I think we should do in this occurrence. (1) If, after curetting and removing the uterine gauze, the next day the temperature falls and the symptoms decrease, there is generally nothing else to do, and the patient will soon get well. (2) Should fever persist and the other symptoms remain what they were the day before, but without aggravation, then intra-uterine irrigation should be done twice daily with creolin, permanganate of potash, sublimate or carbolised water. (3) If the patient gets worse, if the temperature reaches the next day a higher degree than before the operation, then we must repeat the curetting. (4) At last, if after the second curetting the results are nil and the disease continues its course, it is useless to insist upon the local treatment; the infection, in spite of us, has spread abroad, the whole system is infected, and the prognosis has become very gloomy indeed. We are reduced to the means at our disposal to relieve special symptoms, and above all, to strengthen the organism and help it to resist the general intoxication which we could not prevent. At the head of the list, I will mention alcohol, wine and other stimulants. Quinine may be administered by those who have confidence in it; ice-bags on the abdomen if the symptoms of peritonitis seem prominent; subcutaneous injections of normal salt solution which, of late, have appeared to possess an effect considered by some as almost specific; and, at last, hypodermic administration of Marmorek's antistreptococcic serum, which has just arrived full of the most brilliant promises.—*Montreal Medical Journal*, January, 1899.

118.—DEATHS AFTER ABDOMINAL CÆLIOTOMY.

By W. J. SMYLY, M.D.,

(Gynæcologist to the Adelaide Hospital, Dublin.

[Some of the remarks upon the treatment of shock and of septic infection are included here.]

Among the causes of death after cœliotomy more or less due to abdominal conditions are:—(1) Shock, (2) hemorrhage, (3) ileus, (4) uræmia, (5) inanition, (6) tetanus, (7) embolism, (8) sepsis.

Shock.—In weak and debilitated patients with weak hearts and rapid pulse operation should be if possible postponed or abandoned. The operation room should be heated to 75° or 80° F., prolonged exposure of the surface of the body, but especially of the intestines, should be carefully guarded against. The loss of blood should be reduced to a minimum, and the first symptoms of depression carefully watched for and actively treated. I think we are pretty well agreed as to the main lines of treatment in these cases. Hemorrhage should at once be controlled, and where the loss has been considerable, sterilised salt solution infused either into the subcutaneous connective tissue or directly into a vein. In my practice in the Rotunda Hospital I formed an unfavourable opinion of the former, and abandoned it in favour of intravenous infusion, but the apparatus of Munchmeyer, which I employed, was imperfect compared with that used by Dr. Howard Kelly in the Johns Hopkins Hospital, by which a large quantity of solution can be more rapidly infused with a fall of six feet, and it is so strongly recommended by him that I am inclined to have recourse to it should the occasion occur. In all cases of shock, whether due to loss of blood or other causes, the patient should be placed in a warm bed between blankets, with her head low, heat should be applied by means of hot water bottles, enemata of hot saline solution and stimulants administered. The best enema in such a case is, according to Dr. Kelly, one containing two ounces of brandy, twenty grains of carbonate of ammonia, and hot water or beef tea to eight ounces. At the same time brandy, ether, and strychnine are administered hypodermically. Opinions differ with regard to morphia, but I think its use should be restricted to cases in which pain is an important factor in the nervous depression. Excepting in cases where loss of blood has been considerable, saline infusion is of little value, though in some cases of protracted shock, it might, as Mr. Watson Cheyne has pointed out, prevent coagulation of blood in the pulmonary vessels, a recognised cause of death under such circumstances.

Septic Infection.—Some who place their faith in procuring absolutely aseptic conditions spare no pains in attaining this object, whilst others regard such extreme precautions as superfluous, and laugh at those who practice them as extreme ritualists; some even discarding all precautions excepting cleanliness, and attributing their success to perfect technique and skill in operating. For myself, I must confess that I am a ritualist. Since deaths from infection still occasionally occur, we cannot flatter ourselves that we have reached perfection, though even at present such fatalities are more often due to imperfection in carrying out already acquired knowledge than in the lack of reliable information. By perfect asepsis we understand that everything which comes in contact with the field of operation must be absolutely pure. Everything includes not only the operator and his assistants, his instruments and dressings, but also the air and water. An operation may be carried out aseptically in any ordinary room, but this is achieved with great difficulty and risk, so that in my opinion so serious a proceeding as *cœliotomy* should, except under peculiar circumstances of emergency, always be performed in a special apartment so constructed that absolute cleanliness can be insured with pure air free from draughts, ample supplies of pure water and good light, and heated to about 80° F. The operating theatre in the Rotunda Hospital is divided into two parts by a glass screen, in the first of which are placed the basins, sinks, instrument cases, sterilisers, and platform for spectators, all of which are indispensable, but would be difficult to clean with sufficient ease and rapidity, especially where several operations have to be performed in succession. Their absence from the inner compartment enables its furniture to be so simple that it can be thoroughly hosed out in a few minutes. A pure atmosphere, free from draughts and dust, and uncontaminated by spectators, is obtained by its complete isolation, its simplicity of construction, and the cleanliness and dampness of its walls. Whilst the high temperature of the inner compartment enables us to dispense with blankets, maintains the patient's vitality, lessens shock, and dissipates mist, the outer compartment is so cool that the spectators, though dressed in their ordinary clothing, suffer no inconvenience. Lastly, it enables the spectators to approach close to the operation without any risk of disturbing the operator or meddling with his arrangements. Where an operation has been carried out with thorough aseptic detail and hemorrhage completely arrested, drainage, one of the most important aids to success in former times, is now but rarely needed, but can never, I fear, be entirely abandoned. With regard to the after-treatment of septic cases, I shall only state that I place most reliance upon alcohol; of antistreptococcic serum I have had but little

experience, and that of a not very favourable kind. The reopening of the abdomen and thorough washing of the cavity I view in a pessimistic manner, though Howard Kelly speaks of it with approbation. The chief difficulty is diagnosis, for when this is clear it is generally too late to interfere. In conclusion, I may epitomise these somewhat fragmentary remarks with the advice of Doyen, *Operer vite et bien.*—*The Medical Press and Circular*, April 26, 1899.

119.—THE DIAGNOSIS AND TREATMENT OF SENILE ENDOMETRITIS.

By M. LORAIN.

[The author's paper appeared in the *Revue Médicale*.]

The diagnosis of senile endometritis is of the greatest importance, owing to the resemblance its symptoms bear to those of cancer of the body of the uterus. The treatment depends essentially on an accurate differential diagnosis. If the disease is merely endometritis, medical treatment will always guarantee a cure. On the other hand, if the disease is cancer of the body, hysterectomy, at least in the early stages, is the only rational treatment, and the prognosis becomes grave, not only by reason of the dangers of the operation itself, but also because of the grave risk of a recurrence of the disease. The points in common between endometritis and cancer of the body of the uterus are: (1) Blood-stained discharge coming on after the menopause. (2) Offensiveness of the discharge. (3) Periodic pain. (4) Cachectic condition. But although this group of symptoms is found in the two diseases, the points of difference are, nevertheless, fairly well marked.

To take these points in order, we have:—Metrorrhagia always present and occasionally profuse in cancer, whereas in endometritis it may be absent, and is rarely large in amount. Offensiveness of the discharge is found at an earlier period in endometritis than in cancer; in the latter it only occurs when the nodules of new growth break down and are expelled by uterine contraction into the vagina. In endometritis the odour is due to chemical changes taking place in the discharge retained within the uterine cavity. The discharge, moreover, is less purulent and more serous in cancer than in endometritis. Pain may be quite absent, and is rarely intense in endometritis; in cancer, on the other hand, it is almost always present, except in the very early stages. It is always found as soon as the new growth is sufficiently advanced to distend the cavity of the

uterus and bring into play the contractility of the organ. We then observe those paroxysmal attacks of pain which Simpson considered pathognomonic of cancer. Cachexia is the same in the two cases, but in endometritis it soon ameliorates as the result of treatment, whereas in cancer improvement is either absent, or is, at any rate, much slower in appearing. It cannot, however, be doubted that the cachexia of cancer may be materially improved by the careful and persevering use of antiseptics. There are, however, a few other points which will aid in distinguishing the two diseases. It is occasionally possible to insert the finger into the cervical orifice, and feel the nodules of new growth. Moreover, cancer is a much rarer disease than endometritis: the bulk of the uterus is increased, and its mobility diminished, and its surface often nodular in cancer; whereas in endometritis its mobility and its size are almost, if not quite, normal, and its surface smooth. It is, moreover, more tender to the touch in cancer. Cases, however, do arise in which doubt still exists as to the character of the disease, and these may be decided by curetting the uterus and making a histological examination of the portions brought away.

The treatment should have two ends in view: (1) To allow of the free escape of the secretions of the uterine mucous membrane; (2) the application of antiseptics to the interior of the uterus. The free escape of the contents of the uterus is of especial importance, since, as long as these are pent up in its cavity, no cure can be expected. Generally speaking, the dilatation of the cervical canal is best effected by Hegar's dilators; but cases arise in which the stenosis of the cervical canal is so advanced that the smallest dilator cannot be introduced; in such cases dilatation must be obtained with laminaria tents. It is generally sufficient when the passage of Hegar's No. 7 or 8 can be effected, but this will often require two or three sittings at intervals of twenty-four or forty-eight hours. After dilatation, one of the following solutions should be applied to the cavity of the uterus:—Creosote, glycerine, alcohol, equal parts of each; or ichthyol 10 parts, glycerine 40 parts; or pure tincture of iodine. These are introduced into the uterus by means of a flexible sound, the last two inches of which are surrounded by cotton-wool; this is then soaked in the solution and applied to the whole surface of the uterine mucous membrane. The treatment should be renewed two or three times a week, and in the intervals a drain of antiseptic gauze should be left in the uterus, a tampon of similar gauze being left in the vagina. As the cervical canal tends to contract up again between the dressings, it will be found necessary to further dilate it from time to time. The duration of treatment carried out

according to the above principles will be found to be approximately from three to four weeks.—*From abstract in Treatment, February 28, 1899, p. 795.*

120.—VULVAL DISCHARGES IN CHILDREN.

By G. D. ROBINSON, M.D., B.S. (Lond.), M.R.C.P.,
Assistant Obstetric Physician, West London Hospital.

[The following is taken from Dr. Robinson's paper :]

Treatment and prognosis.—In the writer's experience most cases rapidly get well if the parts are kept clean and bathed frequently with an antiseptic—at any rate, they soon cease to attend the hospital. The most troublesome cases are those in which pus wells up from the vagina when the child cries, or when a finger is passed into the rectum and then pressed forwards. In these cases careful syringing of the vagina with an antiseptic has been advised, but it has been found that few of the parents performed this satisfactorily.

Cases in which gonococci could not be demonstrated in the discharges.—In thirteen of his fifty-four cases the writer was unable to satisfy himself that gonococci were present in the discharges. In nine of these cases the discharges contained pus cells, whilst in four of them it was impossible to find any pus cells.

Cases in which the discharge contained pus cells but no gonococci.—In the majority of cases the discharge was of long standing. In three instances it has been specially noted that the pus cells were very few in number. In the other six cases the pus cells were numerous. In all the cases there were many micro-organisms of different sorts present in the discharge.

In Series II. there were six instances in which the discharge was of long standing, varying in duration from eight months to two years. Three cases had been under treatment before the discharge was examined. Whether some or all of these were really of gonorrhœal origin it would be unwise to speculate, but it seems to be possible. The demonstration of the gonococcus in a discharge of undoubted gonorrhœal origin, which has existed for some months, is often difficult or impossible. Three of these children had been treated with antiseptic lotions for some time before the discharges were examined, and it is possible that this treatment may have destroyed gonococci which had previously been present, or at any rate may have rendered their detection impossible. This possibility is illustrated by one of the writer's gonorrhœal cases. This

child had purulent conjunctivitis of the right eye, the left eye being healthy, and was an in-patient at the West London Hospital under the care of Mr. Percy Dunn. Gonococci were never detected in the pus from the eye; this eye having been treated for some time before the discharge was examined. The vulval discharge had also been treated, and was very scanty in amount, and the first attempt resulted in failure to find the gonococcus in it. Orders were given that no antiseptic should be used for a day or two. The discharge became more profuse, and there was then no difficulty in detecting many gonococci in the pus cells. Then again in another case, the disease seems evidently to have been contracted from the child's sister, showing that the discharge had been infectious, although at the time when the cases were first seen, many months after the onset of the disease, it was impossible to discover the presence of the gonococcus in it.

Several writers on the subject consider that besides the gonorrhœal vulvitis there is a class of cases in which although the discharge is infectious it is not of gonorrhœal origin. On this point the writer does not feel himself competent to offer an opinion. It is true that Veillon and Hallé and also Berggrün failed to find gonococci by successful cultures in certain of their cases, but this by no means proves that the disease was not really of gonorrhœal origin in those cases. What has been said with reference to the difficulty of finding gonococci in discharges of long duration, or which have been treated by antiseptics by means of cover-glass preparations, would also apply to culture experiments. The above-named observers do not state how long the discharge had lasted in the cases in which they were unable to find gonococci. The writer would therefore prefer, in our present state of knowledge, to classify cases of purulent vulval discharge in children into (a) those in which the gonococcus can be demonstrated, and (b) those in which the gonococcus cannot be demonstrated, offering no definite opinion as to the relationship that this latter class of cases may bear to the gonococcus of Neisser. Painful micturition and pruritus vulvæ are not uncommonly present in this second class of cases.

Cases in which the discharge contained no pus cells at the time of examination.—In four of the fifty-four cases examined (i.e., 7·4 per cent.) the discharge contained no pus cells at the time of examination, and it was composed of mucus, large squamous epithelial cells, and numerous micro-organisms of various sorts. In some cases enormous numbers of squamous cells were present. The writer has found similar appearances on examining the vaginal discharge of adults who complained of "whites," and he is inclined to think that the pathology of these two conditions is very similar. We know that young girls after the age of

puberty, who have never been exposed to gonorrhœal infection, not infrequently suffer from so-called "whites," especially if they are anæmic and out of sorts; and it is possible that the same thing occurs in younger children, though less commonly. In all the cases in which the discharge presented the above described appearance, it was scanty in amount. In three instances it was thin, in one it was thick. In one case it was said to have existed since birth. In two of the other cases the discharge had occurred from time to time during a period of two years.

The writer recently saw a child of nine years, who was stated to have suffered from time to time with a discharge sufficient in quantity to stain her clothing. It was white, and only lasted a few hours or days at a time. No symptoms were complained of. This child was pale and delicate-looking, but although she was examined on several occasions it was never possible to discover any discharge. Probably this was a case similar to those which we are describing. None of the four children who presented this non-purulent discharge suffered from painful micturition, but pruritus vulvæ was complained of in two instances.

To sum up: an investigation of fifty-four cases of so-called vulvitis in children seemed to show that in forty-one instances the condition was gonorrhœal in origin; in nine instances the discharge contained pus cells, but no gonococci were demonstrated; in four instances the discharge contained no pus cells.—*Transactions, Obstetrical Society, Part I., 1899.*

121.—MANGANESE IN THE TREATMENT OF DYSMENORRHOEA.

By CHARLES O'DONOVAN, A.M., M.D., Baltimore.

[From Dr. O'Donovan's paper:]

The great majority of cases of dysmenorrhœa occur in anæmic young women, who require iron, and frequently under its influence they regain their proper condition of blood and need no other medicine. This remedy, persisted in for a reasonable period, say six months in many cases, to be used again if the same symptoms reappear, is the most important in the treatment of this ailment. But there are many cases in which iron seems not to be required, from the excellent general health and the rich florid colour of the skin, and yet the return of each menstrual period means a new period of agony to a woman who is apparently in perfect health. Between the periods nothing is

complained of, but every month the trouble recurs, and each month it grows worse. Such cases are met with every day, in all classes of society—among the neurotic young women of high station and luxurious surroundings as well as among sewing women or worn-out shop girls. Nourishment and exercise have no effect upon the dysmenorrhœa; they suffer as well during the summer holidays at the seashore or in the country as during the winter fatigues either of social gaiety or of paid labour.

The cases to which I refer do not require iron; and if it is given to them experimentally they derive no benefit from it, or may even be made more uncomfortable. In very many of these cases I have obtained excellent results from the use of manganese, generally used alone, but sometimes with viburnum. I speak now of virgins, who should never be subjected to a vaginal examination except as a last resort and after a fair trial of drugs. How these women escape becoming drunkards is a mystery to me, for they invariably have been taught by sympathising companions that some alcoholic intoxicant, oftenest gin or whisky, is the only available medicine for relief at such times. It does not relieve, except in the sense of deadening their sensibility, and thus giving time for the dysmenorrhœa to pass away. In treating these cases I have tried a number of remedies, but have reached the conclusion that manganese is to be depended upon far more than any other, and often gives such results as seem truly remarkable. I have to-day seen a young woman, otherwise healthy and strong, slender but excellently proportioned, whose activity and energy denote apparently perfect health, but who used to spend the first day of her period every month in a perfect agony of pain, tossing from side to side in her bed, vomiting every few minutes, and crying out with each return of her cramp. Alcohol gave her no relief till she was stupefied, and various remedies that she had tried were useless, or so powerful that she would require a couple of days to recover from their effects. She obtained perfect relief by taking pills of manganese, iron, and hyoscyamus for a week before each period, and became so well that she ceased treatment, and paid for her carelessness by a return of her dysmenorrhœa nearly as bad as ever. But it may have been the iron or the hyoscyamus. She had been given iron freely before the manganese was added, but without result, and the amount of hyoscyamus was too small—one-third grain of the extract—to have any such effect. In each pill were two grains of black oxide of manganese, and this I consider the efficient drug.

This case is but one of many that I could quote from notes, few as bad, but many approaching it in severity, that I have watched for longer or shorter periods during the past ten years.

More extended records can be found in papers on the subject that I have published in the *Medical News* of April 6, 1889, and November 27, 1897, where several very convincing cases are related. The recent histories of these young women continue to bear out the good opinion originally obtained of manganese, for it has proven itself to be a remedy that does good continuously in such cases as it benefits, not losing its effect with prolonged use, but, on the contrary, becoming more and more satisfactory in each succeeding month.—*Journal of the American Medical Association, December 31, 1898.*

122.—PELVIC SUPPURATION.

By BYRON B. DAVIS, M.D., Omaha, Neb.

[From Dr. Davis' paper.]

In acute attacks of pelvic inflammation it is often very difficult to decide whether there is greater danger in an immediate operation or in delay. Many cases which seem very serious make symptomatic recoveries, and occasionally I have examined women who had made, so far as could be determined by bi-manual examination, anatomic recovery—and even when they had been supposed to have a collection of pus in the pelvis. These experiences have led me to hesitate about advising operation in many of these cases of acute pelvic inflammation. In only two classes of cases do I uniformly advocate immediate operation:—(1) Those in which the amount of pus is large and tension great, where there seems to be danger of perforation into the peritoneal cavity, the bladder, or the rectum; (2) those cases with profound sepsis, whether the amount of pus is great or small, in which the conviction is forced upon us that unless something is done to stop the septic absorption the patient is bound to succumb. During the past few months no less than six cases of pelvic suppuration have been met with, in which one or both of these conditions have been present. In each case the patient was in no condition to endure a prolonged operation. All were operated upon through the vagina by free incision and drainage. All made operative recoveries and are now symptomatically well women. Whether any or all may eventually have recurrences it is impossible to say, but in the one case, in which I had an opportunity to make an examination some weeks subsequently to the operation, only the slightest amount of induration remained. Every one of these cases was very weak, with high

temperature and rapid, weak pulse at the time of operation, and to have subjected them to so serious and prolonged an operation as a cœliotomy would have surely resulted in a larger percentage of mortality, if, indeed, any of them would have survived. It is only just to state that in all but one of these cases convalescence was prolonged over a period greater than in the average cœliotomy; but surely safety of the operation is purchased cheaply, even at the price of two or three weeks longer in bed. It is argued by Dr. Joseph Price that this is an operation which has its birth in timidity; is never complete, and leaves the patient in practically as bad a condition as she was before. The experience with these few cases has convinced me that it is better to be accused of timidity than to sacrifice a life on account of not having the courage to perform an operation, because it is supposed to be an indication of timidity. Of these six cases, the pus was still located in the tubes in four cases, and each tube was opened and drained separately. In the other two cases the pus had broken through the tubes and we had a true peri-uterine abscess. In three cases the unquestionable cause of the infection was abortion; in the other three it was not determined whether it was abortion or gonorrhœa, though the former was probable in all, and in no case could it be positively stated that the infection was gonorrhœal. This is, in a small way, evidence in favour of the dictum of A. Martin, who says that very seldom does a gonorrhœal infection require an immediate operation, while infections from abortions frequently require operation in the acute attack. In all my cases the vaginal fistula closed promptly, but it is only fair to state that a permanent fistula is doubtless to be expected occasionally. Recently I met with such a case, operated by another surgeon, in which a fistula was left. The patient, when she came to me, was in such a condition as not to contraindicate abdominal section, which was done, and the woman recovered.

Regarding the technic, the bounds set for this paper will not permit a discussion. One point only I feel constrained to mention. If there is any pelvic tissue it is the worst kind of treatment to resort to irrigations and thus carry infectious matter into the uninfected recesses of the abdominal cavity. It is much better to wipe out carefully and then drain, either through the lower angle of the abdominal incision, or, what is better, through the vagina. It is very easy to make an incision through Douglas' pouch, and thus get downhill drainage. Rarely, it may be necessary to make use of through-and-through drainage.—*Journal of the American Medical Association, February 4, 1899.*

123.—VAGINAL HYSTERECTOMY FOR CANCER.

By J. HALLIDAY CROOM, M.D., F.R.C.P.Ed., F.R.C.S.Ed.,
F.R.S.E.,

President, Edinburgh Obstetrical Society ; Physician and
Clinical Lecturer on Diseases of Women, Royal
Infirmary, Edinburgh.

[The following is taken from Dr. Croom's paper because it deals with late results.]

In any account of vaginal hysterectomy, with our improved methods of operation, recovery is, as a rule, to be expected. The immediate risks of the operation, when undertaken in circumstances at all favourable, are small. Those cases which succumb shortly after the operation must and can only be badly selected ones, where the fornices are small, where the disease has involved the posterior wall of the bladder (a condition always difficult of diagnosis beforehand), or where hemorrhage or sepsis has resulted. But, in any well-selected group of cases such an untoward event is never to be looked for.

I am at present concerned with the question, as to how far this operation prolongs the life of the patient ; and, before touching upon that matter, another question readily suggests itself. I suppose no one will deny that a case, to be not only immediately but also to be remotely successful, must necessarily be attacked in its most early stage. Now, a very early carcinoma of the cervix, still more an early tubular carcinoma of the body of the uterus, will, under ordinary circumstances, give an expectation of life for the patient, of eighteen months to three years. With sarcoma the expectation is distinctly longer. Therefore, in ascertaining the value of any operation whatever, the first question to decide is, Whether or not that operation can prolong the patient's expectation of life ? and, obviously, the second question is, Whether it prolongs her expectation of life or not, does it relieve her symptoms, and give her an easier death than she would have had if no operation had been undertaken ? These are the two questions which, in this paper, I propose to discuss. During the past ten years, 300 cases of cancer have presented themselves to me, either in the wards of the hospital or in my consulting-room, and with regard to these I have the following remarks to make :—(1) They include not all the cases of cancer which I have seen, but only those which have been admitted to my ward, or which I have seen in my own consulting-room. I have not included those cases seen in the out-patient department, and of those which I have seen in consultation in private I have kept no record. Hence, therefore, the experience which I am putting before you may seem rather

less than might have been expected. (2) The accompanying 14 cases of cancer of the uterus for which I have performed vaginal hysterectomy, except two, and those two were done in my earlier years, and were, in some respects, incomplete. On that account they must be omitted in estimating the value of the operation. The 14 now recorded were performed with the Greig Smith and Doyen improvements of the operation; and, save one, they were complete in every detail. Of the 14, only three were done in the hospital, the others in private, which is itself a suggestive fact, because those seen in private practice are always seen at an earlier stage than those which apply for advice to a hospital. Each one of those 14 cases was most carefully selected; all the others, if interfered with at all, were only dealt with by the ordinary palliative measures. (3) These cases include all the recognised forms of cancer affecting the cervix and the body of the uterus.

[The author then gives examples.]

Case 1, aged 47 years; immediate recovery; died 9 months later from recurrence. Case 2, aged 36 years; immediate recovery; died 18 months later from recurrence. Case 3, aged 48 years; death. Case 4, aged 49 years; recovery, but died 14 months later. Case 5, aged 51 years; recovery, but died 16 months later. Case 6, aged 32 years; recovery, but died 1 year later. Case 7, aged 44 years; recovery, but died 8 months later. Case 8, aged 38 years; recovery, but died 17 months later. Case 9, aged 43 years; recovery, but died 1 year later. Case 10, aged 58 years; recovery, but died 11 months later. Case 11, aged 38 years; recovery, but died in one year. Case 12, aged 29 years; recovery, but died 10 months later. Case 13, aged 49 years; recovery, but died 16 months later. Case 14, aged 33 years; recovery, but died 8 months later.

First let me take a hospital case:—

Case 1.—A widow, mother of four children, a worker in a Dundee mill, presented herself at the hospital, complaining of slight pain in the back, and menorrhagia. Now there was no leucorrhœa, no foetid discharge, no bleeding, and no emaciation, and a certain slight degree of erosion and eversion of the cervix was all the sign of disease that could be found. At first it was supposed to be a case of cervical catarrh, and was put under treatment appropriate to such a condition. As there was no improvement after a fortnight, and as the cervix seemed to become suspiciously hard, a piece of tissue was examined by competent authorities at the laboratory of the Royal College of Physicians, and the condition pronounced to be malignant. As the case fulfilled every one of the conditions for hysterectomy—mobility, non-involvement of glands, and freedom of the ligaments, with apparently no infection of the body of the uterus or the bladder—the operation was performed, lasting eighteen minutes, and the patient made a perfect recovery. The further history of that case is as follows:—The operation was done on July 16. The following Christmas the patient was seen by Dr. Lackie, who said that there were several bleeding nodules at the site of the cicatrix and that the patient was suffering pain. During my absence in April, Dr. Lackie again saw her, and pronounced the whole pelvis to be occupied by a cancerous mass, with hemorrhage, emaciation, and great pain. She died during that summer.

Now, my comment upon this case is—(1) That I could not wish for a more suitable case, both as to the general and local conditions, to operate upon, and that the operation could not be easier or shorter ; (2) that for a short period of a month or two the patient was comparatively well ; and (3) that in six months the disease had recurred with intense pain, and in nine months there was a fungating cancerous mass in the pelvis, in a year the patient was dead. I am bound to say that, so far as my experience of such a case of cancer is concerned, had the patient been left alone her expectancy of life would have been from eighteen months to two years, and her sufferings, which were very great, would have been less.

Case 2 is that of a lady from the west country, aged 47 years, and in evidently robust health. Her symptoms were chiefly severe pain in the back and loins, with some hemorrhagic discharge. Her doctor, Dr. Muir, who sent her to me, believed she was suffering from an early cancer of the uterus. When I saw her the uterus was perfectly mobile, not enlarged, the fornices were free and no glands were involved, and save a distinct hard nodular cervix, there was nothing abnormal to be found. I was disposed to agree with Dr. Muir as to the malignancy of the case, but had a specimen examined, and the report confirmed this opinion. The operation was performed quickly and easily after Doyen's method, and the patient made an absolutely uninterrupted recovery, leaving the Nursing Home a month from the day of the operation. Three months afterwards the pain recurred, and soft, granular, bleeding masses appeared at the site of the wound. From that time onwards the pain was so severe that the patient practically lived on opium, and died seven months after operation.

My comment on this case is, that this woman had only a very short immunity from pain. In three months it recurred, and except for morphia her life would have been intolerable. The disease had markedly affected the peritoneum, although the mass in the pelvis never became very large. This woman's expectation of life when I first saw her was unquestionably from a year to eighteen months, and as a matter of fact, with all the so-called advantages of the operation, she only lived seven months.

The third type of cases is illustrated by the following :—

Case 3.—When I first saw the patient she was supposed to be suffering from an incomplete abortion. She was a lady in the enjoyment of excellent health, except for persistent hemorrhage, which had lasted for two months before I saw her. I was quite contented to believe that the diagnosis given me by her medical attendant was correct, and I proceeded to curette the uterus, which was enlarged, with the cervix somewhat gaping, and well-marked ectropion. I submitted the débris removed by curettage to Mr. Stiles for microscopic examination, and to my surprise he told me the case was one of tubular carcinoma. Even from such an authority as Mr. Stiles I was unwilling to accept this, and it was only after an interval of a fortnight that I removed another scraping for examination by Mr. Stiles, but his report was just the same as before. I therefore, without further delay, performed vaginal hysterectomy. If ever there was a case

in which the operation was easy, this was the one; and where hopes of remote recovery were warranted, there never was a better, because the broad ligaments were absolutely free, and the disease was entirely localised to the fundus and body. Now, within six weeks she had slight recurrence of the hemorrhage from the cicatrix and an enlarged gland in the left groin. She went to her home in the north, and although I never personally saw her again, she died of malignant peritonitis within the year.

My comment on this case is obvious. A woman's expectation of life with intra-uterine cancer is from two to five years. Howard Kelly, himself a keen operator, admits five years as a possible duration for an intra-uterine cancer, when not interfered with. This patient was in excellent health, she suffered absolutely no pain, and had no symptom except the hemorrhage; and had it not been for the practice that I invariably make of having the scrapings after a curettage examined by the microscope, this patient would have gone home without any reason to suppose she was suffering from cancer of any sort or kind. It will be further observed that she had no pain before the operation, and it was only afterwards that, when the disease spread to the peritoneum, her pain was intense, and she died in terrible suffering from malignant peritonitis.

I need not multiply examples, because in all the other cases the history before and after the operation is somewhat similar. But perhaps I may be allowed to show the converse. A lady came under my observation with what I supposed to be senile uterine catarrh. I do not usually dilate and scrape in this condition, but as the os uteri was somewhat gaping, and the hemorrhage rather profuse, I further dilated the cervix, and curetted and packed the cavity. The report on the scraping was "well-marked carcinoma." I announced this to the patient's friends; and for various reasons, personal, domestic, and otherwise, any further operative interference was declined. Personally I was not sorry for this, because the uterus was somewhat fixed and the fornices small, and the operation would not have been a very easy one. That was in 1894; to-day, though seriously ill, she is still alive, and only recently has she suffered much at all. During these years she has at intervals enjoyed many consecutive weeks of excellent health. Her position in life allowed her to have every luxury, which may possibly have had something to do with the prolongation of her life; but nevertheless the fact remains, that four years ago she had fundal cancer, verified by the microscope, and she is alive still. My further comment on this case is, that the duration of four and a half years is probably an under-estimate of the time, because it is a certainty that the cancer had originated a considerable time before I first saw her. I must admit that this is a longer duration than is commonly met with, but a three years' duration is by no means uncommon in my experience.

I should like to say that in the present paper I am not dealing with anybody's results but my own, nor am I venturing to criticise any other operator's work. I am only stating my own experience of vaginal hysterectomy for cancer. This has been an unfortunate one; but it seems to me the duty of every operator, whatever his ability or experience may be, to record his ultimate results, even though the truth so told may tell against himself. Let me add that all these cases operated on were exceptionally favourable ones, and selected with special care. Bad though my results have been, I tremble to think of what they might have been had I operated on cases indiscriminately. I am hopeful, however, that by some improvement in the management of the wound at the time of operation, so that the diseased surface may not come in contact with the peritoneum, infection may become less likely, and better remote results be secured.

I shall continue to operate upon early selected cases until I succeed, or until some method of dealing with cancer, such as by the serums or the antitoxins, will render operative treatment unnecessary.—*Edinburgh Medical Journal*, March, 1899.

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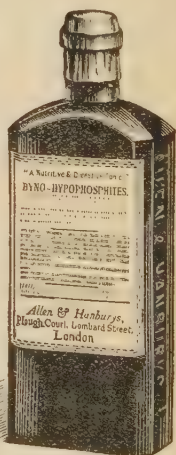
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